					С	ST DEPARTMENT DIVISION O	OF NA			6		AMEN	FO NDED REPC	RM 3 PRT		
		APP	LICATION F	OR I	PERMI	IT TO DRILL	-				1. WELL NAME and		<b>R</b> 22-12P4BS			
2. TYPE C		RILL NEW WELL (	REENTE	R P&/	A WFII	C DEEPE	N WELL				3. FIELD OR WILDO		L BUTTES			
4. TYPE C											5. UNIT or COMMUI	NITIZA <sup>.</sup>	TION AGR	EEMENT	NAME	
6. NAME	OF OPERATOR					ane Well: NO					7. OPERATOR PHON	1E	L BUTTES			
8. ADDRE	SS OF OPERA	TOR	RR-MCGEE OIL			,					9. OPERATOR E-MA	IL	29-6515			
10. MINE	RAL LEASE N		P.O. Box 17377			CO, 80217 INERAL OWNE	RSHIP	•			julie.ja  12. SURFACE OWNI		@anadarko	.com		
(FEDERA	<b>L, INDIAN, OF</b> UT S	R <b>STATE)</b> T UO 01997-A ST			FEDER	RAL IND	IAN 🦲	) STATE (	FEE		FEDERAL INI	DIAN 🦲	STATE		FEE 🔵	
13. NAME	OF SURFACE	OWNER (if box :	12 = 'fee')								14. SURFACE OWNI	R PHO	NE (if box	12 = 'fe	ee')	
15. ADDR	ESS OF SURF	ACE OWNER (if b	ox 12 = 'fee')	)							16. SURFACE OWN	R E-MA	AIL (if box	12 = 'f	ee')	
		OR TRIBE NAME				TEND TO COM		LE PRODUCT	ION FRO	М	19. SLANT					
(II box 12	2 = 'INDIAN')				YES (	(Submit C	Commin	gling Applicat	ion) NO		VERTICAL DIR	ECTION	IAL 📵	HORIZON	ITAL 🛑	
20. LOC	ATION OF WE	LL		FOC	OTAGES	s	Q1	rR-QTR	SEC	TION	TOWNSHIP	R	ANGE	МЕ	RIDIAN	
LOCATIO	ON AT SURFAC	CE	11	05 FS	SL 470	) FEL		SESE	1	2	10.0 S	2	2.0 E		S	
Top of U	ppermost Pro	ducing Zone	58	30 FS	L 494	FEL		SESE	1	2	10.0 S	2	2.0 E		FEE () 2 = 'fee')  RIZONTAL ()  MERIDIAN  S  S  NIT  FAPPLICABLE  ield Weight15	
At Total	Depth		58	30 FS	L 494	FEL		SESE	1	2	10.0 S	2	2.0 E		S	
21. COUN	ITY	UINTAH			22. DI	STANCE TO N		T LEASE LIN 94	E (Feet)		23. NUMBER OF AC		DRILLING 674	UNIT		
						STANCE TO N ed For Drilling	g or Co	mpleted)	AME POO	DL	26. PROPOSED DEP		TVD: 83	75		
27. ELEV	ATION - GROU	JND LEVEL		$\dashv$	28. BO	OND NUMBER	5	02			29. SOURCE OF DR					
		5264					2201	13542			WATER RIGHTS AP		<b>L NUMBER</b> 8496	IF APP	LICABLE	
								ement Information								
String Surf	Hole Size	Casing Size 8.625	<b>Length</b> 0 - 2160		ight 3.0	Grade & Th		Max Mu			Type V		Sacks 180	Yield		
Juii	11	0.023	0 2100		5.0	J JJ LIV	<u> </u>	0.2	_		Class G		270	1.15		
Prod	7.875	4.5	0 - 8433	11	1.6	I-80 LT8	&C	12.	.5	Pren	nium Lite High Stre	ngth	270	3.38		
											50/50 Poz		1150	1.31	14.3	
						A	ТТАСН	IMENTS								
	VERIFY T	HE FOLLOWIN	G ARE ATTA	CHE	ED IN	ACCORDAN	CE W	TH THE U	TAH OIL	AND (	GAS CONSERVATI	ON GE	NERAL F	RULES		
<b>✓</b> w	ELL PLAT OR	MAP PREPARED E	BY LICENSED	SURV	VEYOR	OR ENGINEE	R	СОМ	IPLETE D	RILLING	G PLAN					
AF!	FIDAVIT OF S	TATUS OF SURFA	CE OWNER A	GREE	EMENT	(IF FEE SURF	ACE)	FOR	4 5. IF O	PERATO	R IS OTHER THAN TI	HE LEAS	SE OWNER	t		
DRILLED		URVEY PLAN (IF	DIRECTIONAL	LLY C	OR HOR	RIZONTALLY		<b>№</b> ТОРО	OGRAPHI	CAL MAI	P					
NAME G	ina Becker			TI	TLE Re	gulatory Analys	st II			PHON	<b>E</b> 720 929-6086					
SIGNAT	URE			DA	<b>ATE</b> 09/	/13/2011				EMAIL	gina.becker@anadarl	co.com				
	iber assign )4751969(			AF	PPROV	AL				Perr	OCH Manager					

NBU 1022-12P Pad Drilling Program
1 of 7

# Kerr-McGee Oil & Gas Onshore. L.P.

### NBU 1022-12P4BS

 Surface:
 1105 FSL / 470 FEL
 SESE

 BHL:
 580 FSL / 494 FEL
 SESE

Section 12 T10S R22E

Uintah County, Utah Mineral Lease: UT ST UO 01197-A ST

### **ONSHORE ORDER NO. 1**

### **DRILLING PROGRAM**

# Estimated Tops of Important Geologic Markers: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1040	
Birds Nest	1335	Water
Mahogany	1709	Water
Wasatch	4073	Gas
Mesaverde	6208	Gas
MVU2	7195	Gas
MVL1	7738	Gas
TVD	8375	
TD	8433	

# 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program

### 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Drilling Program

### 5. <u>Drilling Fluids Program</u>:

Please refer to the attached Drilling Program

### 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program

**Drilling Program** 2 of 7

NBU 1022-12P Pad

#### 7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8375' TVD, approximately equals 0.64 psi/ft = actual bottomhole gradient

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,506 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### 8. **Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

#### 9. Variances:

Please refer to the attached Drilling Program. Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

### Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

NBU 1022-12P Pad Drilling Program
3 of 7

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

NBU 1022-12P Pad Drilling Program 4 of 7

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

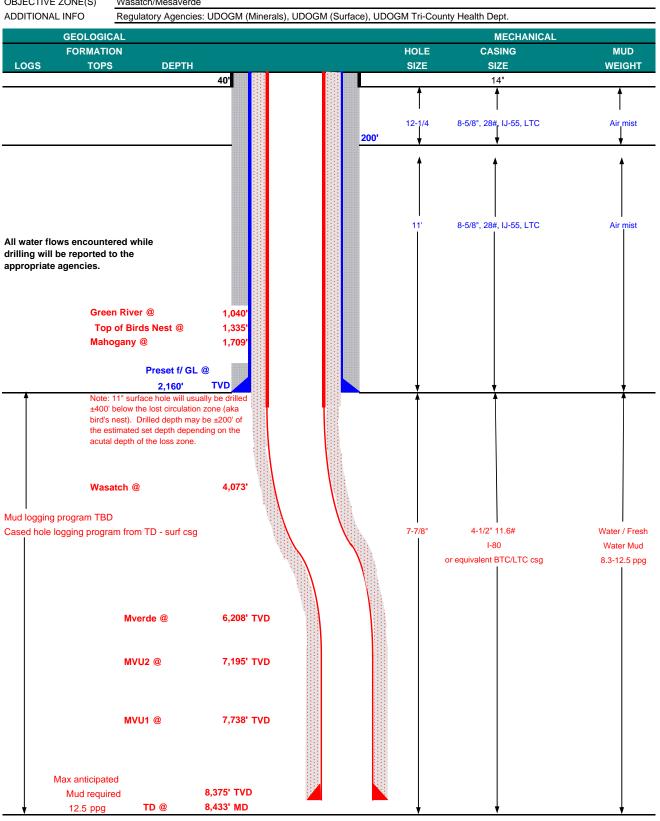
### 10. Other Information:

Please refer to the attached Drilling Program.



# KERR-McGEE OIL & GAS ONSHORE LP <u>DRILLING PROGRAM</u>

COMPANY NAME KERR-McGEE OIL & GAS ONSHORE LP DATE September 7, 2011 NBU 1022-12P4BS WELL NAME 8,375' TVD 8,433' MD TD FINISHED ELEVATION **FIELD** Natural Buttes COUNTY Uintah STATE Utah 5263.8 SURFACE LOCATION SESE 1105 FSL 470 FEL Sec 12 T 10S R 22E -109.379868 Latitude: 39.959246 Longitude: NAD 27 BTM HOLE LOCATION SESE 580 FSL 494 FEL Sec 12 T 10S R 22E Latitude: 39.957804 -109.379958 NAD 27 Longitude: OBJECTIVE ZONE(S) Wasatch/Mesaverde





### **KERR-McGEE OIL & GAS ONSHORE LP**

### **DRILLING PROGRAM**

CASING PROGRAM	PROGRAM DESIGN FACTORS										
										LTC	BTC
	SIZE	INT	ERVAL	_	WT.	GR.	CPLG.	BURST	COLLA	PSE	TENSION
CONDUCTOR	14"	(	0-40'								
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,160	28.00	IJ-55	LTC	2.50	1.86	6.57	N/A
								7,780	6,350	279,000	367,000
PRODUCTION	4-1/2"	0	to	8,433	11.60	I-80	LTC/BTC	1.11	1.17	3.53	4.64

**Surface Casing:** 

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to	o surface,	option 2 wil	l be utilized	
Option 2 LEAD	1,660'	65/35 Poz + 6% Gel + 10 pps gilsonite	150	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	3,573'	Premium Lite II +0.25 pps	270	20%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	4,860'	50/50 Poz/G + 10% salt + 2% gel	1,150	35%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

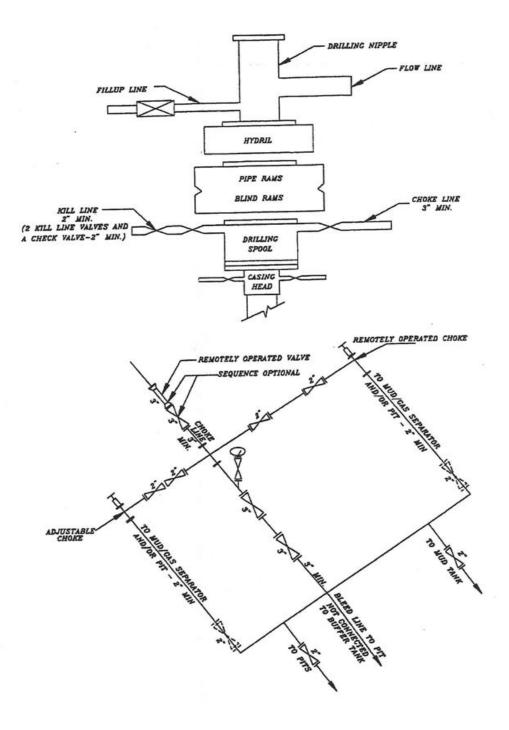
Surveys w	ılı be taken at	1,000 min	ımum intervai:	s.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

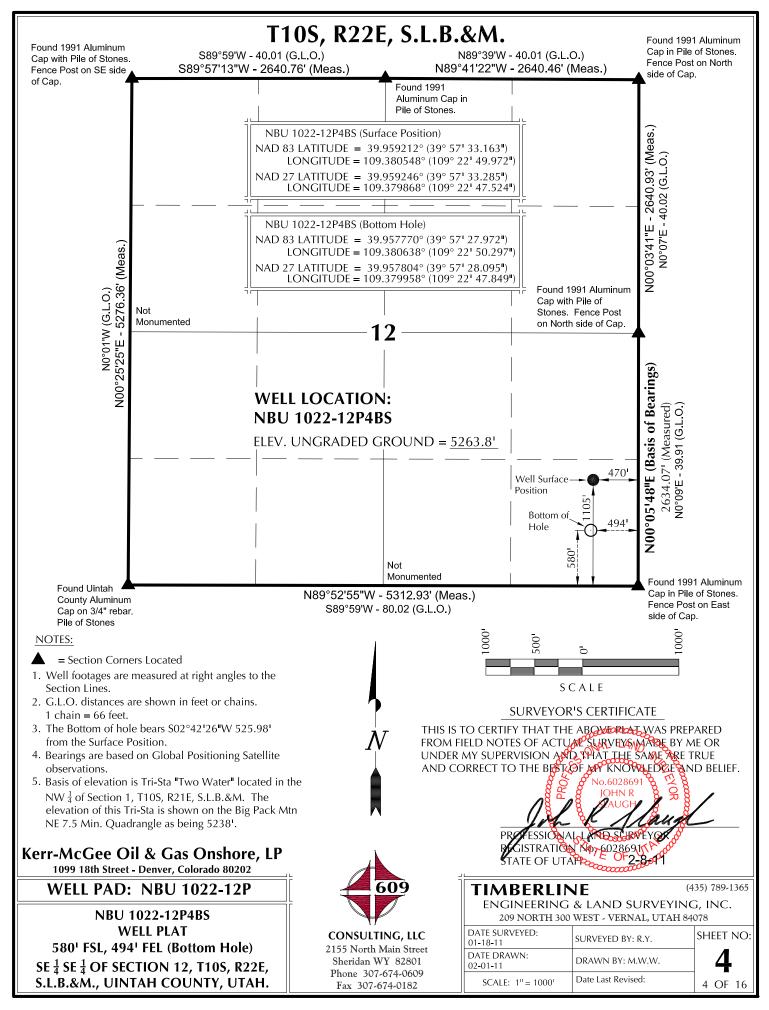
DRILLING ENGINEER:		DATE:	
	Nick Spence / Danny Showers		
DRILLING SUPERINTENDENT:		DATE:	
	Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

EXHIBIT A NBU 1022-12P4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



			SURFACE								В	OTTOM HOLE		
WELL NAME	NAE LATITUDE	D83 LONGITU	DE LAT	NAI ITUDE		HTUDE	FOOTAGES	LATIT	NAD UDE		GITUDE	NAI LATITUDE	D27 LONGITUDE	FOOTAGES
NBU	39°57'33.254"	109°22'49.	605" 39°57	'33.377"	109°22'	'47.157"	1115' FSL	39°57'2	4.672"	109°22	2'50.269"	39°57'24.795"	109°22'47.822"	246¹ FSL
1022-12P4CS NBU	39.959237° 39°57'33.224"	109.38044 109°22'49.		9271° '33.346"	109.379 109°22		442' FEL 1112' FSL	39.9568 39°57'3		109.38 109°22	0630° 2'50.251"	39.956887° 39°57'37.915"	109.379951° 109°22'47.803"	491' FEL 1574' FSL
1022-1214CS NBU	39.959229° 39°57'33.193"	109.38048 109°22'49.	o° 39.95		109.379	9800°	451' FEL 1109' FSL	39.960 <sup>2</sup>	498°	109.38		39.960532° 39°57'34.615"	109.379945°	493¹ FEL
1022-12P1BS	39.959220°	109.38051	4° 39.95	9254°	109.379	9834°	461' FEL	39.9595	581°	109.38	0614°	39.959615°	109.379934°	1240' FSL 489' FEL
NBU 1022-12P4BS	39°57'33.163" 39.959212°	109°22'49. 109.38054		'33.285" 9246°	109°22' 109.379	'47.524" 9868°	1105' FSL 470' FEL	39°57'2 39.9577		109°22 109.38	2'50.297" 60638°	39°57'28.095" 39.957804°	109°22'47.849" 109.379958°	580' FSL 494' FEL
NBU 1022-12P	39°57'32.928" 39.959147°	109°22'49.	873" 39°57	'33.050"	109°22'	47.425"	1082' FSL		l				,	,
U44-14F	J3.33314/	109.38052			109.379   Coordi		462' FEL From Surface	Position	to Botto	om Hole	e			
WELL NAME	NORTH	EAST	WELL NAM		ORTH	EAS	T WELL	NAME	NORT		EAST	WELL NAM	ME NORTH	EAST
NBU 1022-12P4CS	-868.7'	-50.9'	NBU 1022-12140	$cs \mid 4$	62.4	-41.2	NBU 1022-1	12P1BS	131.	5'	<del>-</del> 28.21	NBU   1022-12P4	-525.4'	-24.8'
				3ottom o ⊣ole		07'09"W - To Bottom F	1		THE S.L.B GLO	SE ¼ O 8.&M. \ BAL P	OF SECTION  WHICH  OSITION	GS IS THE EAS ON 12, T10S, IS TAKEN FRC NING SATELLI O BEAR N00°	R22E, DM ITE	
	o Exist. W.H.= kist. W.H.=161				22-12	\ P1BS~							00.64389° 32.0 .=212.17861° 3	
	kist. W.H.=161		5.0' <b>NBU</b>		22-12  12P4	P1BS 525.98'	S03°21'21"W - 870.17' X O TO Bottom Hole)	NBU 1	1022-	12P4	CS Az.	to Exist. W.H.		
Az. to Ex  V  V  V  V  V  V  V  V  V  V  V  V  V	kist. W.H.=161	.98417° 2 \$71°59'\ \$72 = 251 \$71°59'\ \$71°25'\ \$71°	Onshore ado 80202 22-12P	1022-	22-12  12P4  	SO2°42'26"W - 525.98' (To Bottom Hole)	S03°21'21"W - 870.17' X O TO Bottom Hole)	NG W	TI E DATE 01-18	MBU NBU SURVE	GERLI 1022-1	TO Exist. W.H.  2P  S C  S C  INE  G & LAND	EALE  (4 SURVEYING RNAL, UTAH 84	35) 789-1365 G, INC.
WELL WELLS - NB NBU 10	Gee Oil & 8th Street - Dei L PAD - N PAD INTE	.98417° 2 \$71°59'( \$72°25'\ \$72°2	Onshore ado 80202 22-12P	1022- 102- 10	22-12  12P4  	CONST Special Society (10 Bottom Hole)	AZ=183.35583° © SO3°21'21"W - 870.17' NO Bottom Hole) (To Bottom Hole)	NG W	TI E DATE 01-18	MBU NBU SURVES-11 E DRAW	GERLI 1022-1	TO Exist. W.H.  2P  S C  S C  S C  S C  S C  S C  S C  S	=212.17861° 3  FALE  (4  SURVEYING RNAL, UTAH 84  BY: R.Y.	39.1' -09 35) 789-1365 G, INC.

Phone 307-674-0609 Fax 307-674-0182

209 NORTH 300 WEST - VERNAL, UTAH 84078

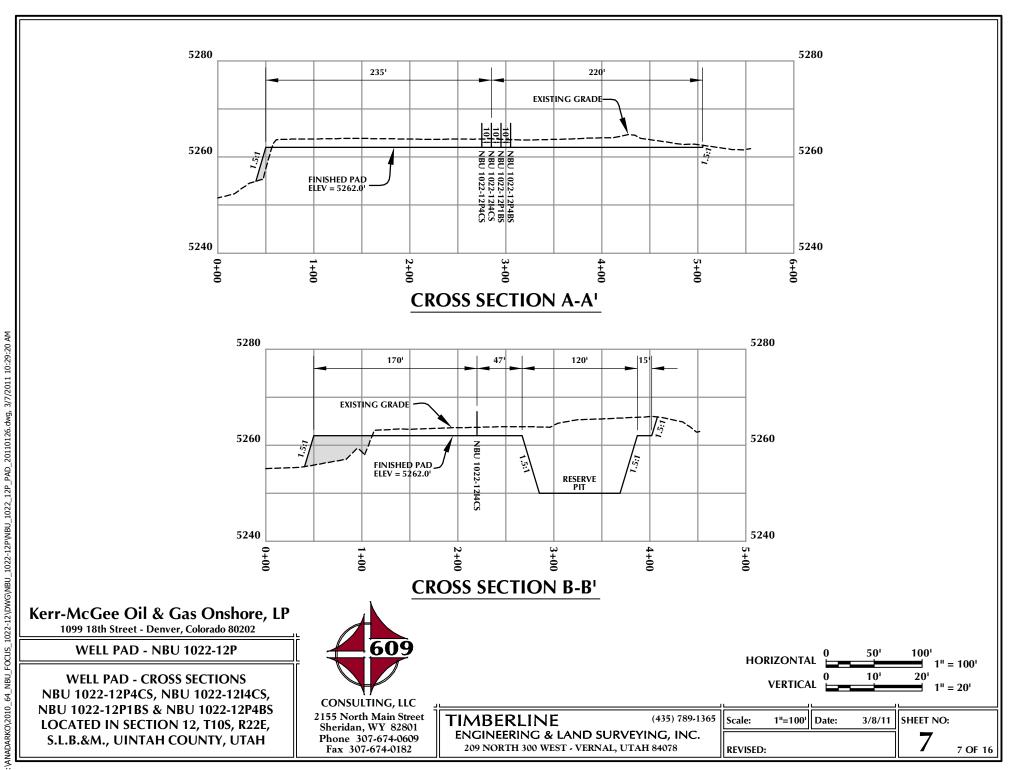
S.L.B.&M., UINTAH COUNTY, UTAH

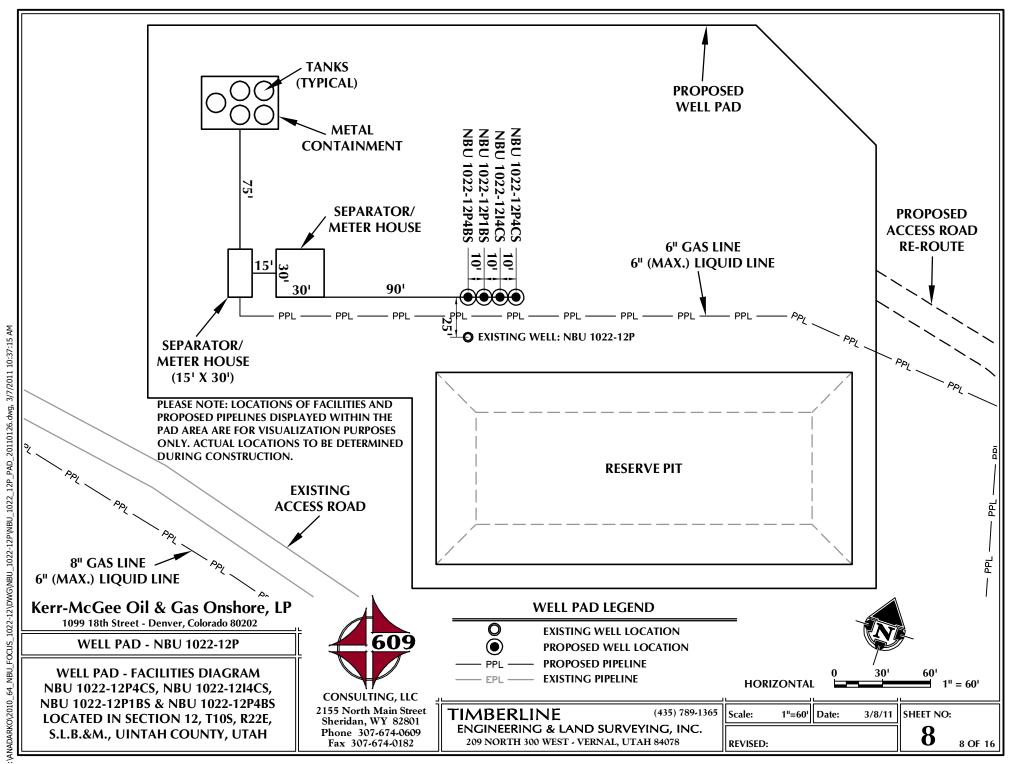
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6 OF 16





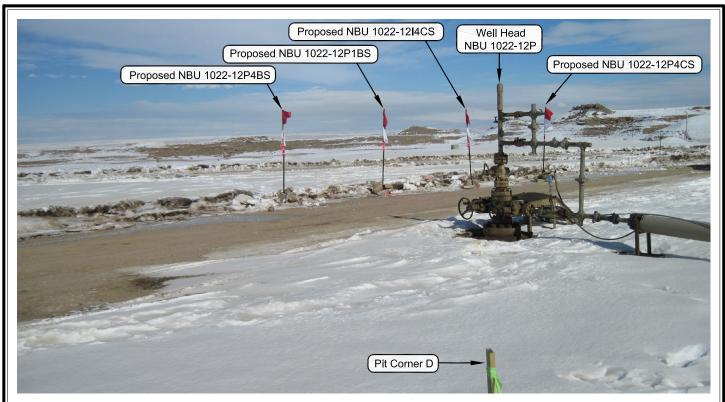


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

**CAMERA ANGLE: NORTHEASTERLY** 



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

**CAMERA ANGLE: NORTHWESTERLY** 

Kerr-McGee Oil & Gas Onshore, LP 1099 18th Street - Denver, Colorado 80202

### **WELL PAD - NBU 1022-12P**

**LOCATION PHOTOS** NBU 1022-12P4CS, NBU 1022-12I4CS, NBU 1022-12P1BS & NBU 1022-12P4BS LOCATED IN SECTION 12, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.



# CONSULTING, LLC 2155 North Main Street

Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

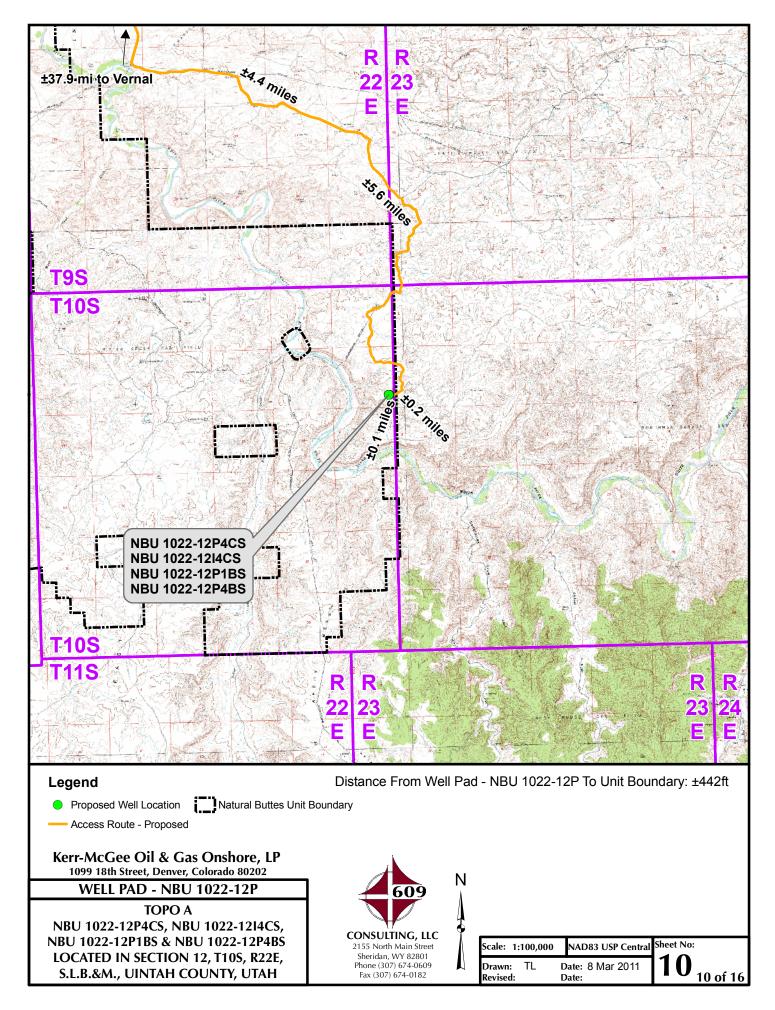
TIMBERLINE
ENGINEERING & LA
200 NODETT 200 INFOR

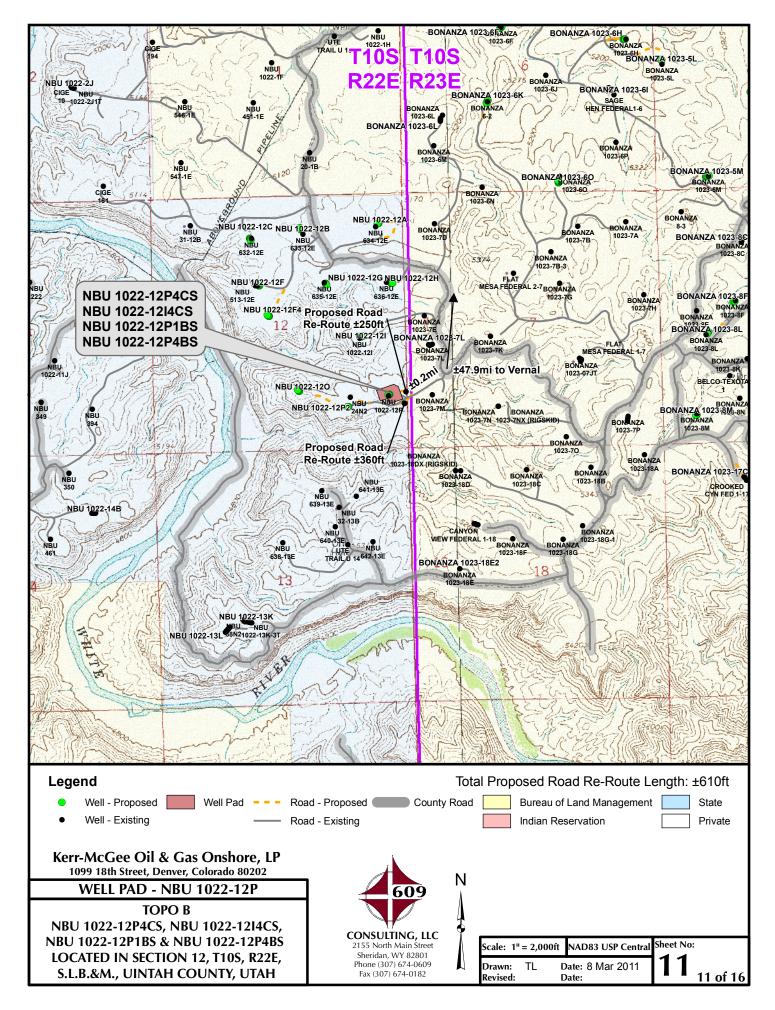
(435) 789-1365

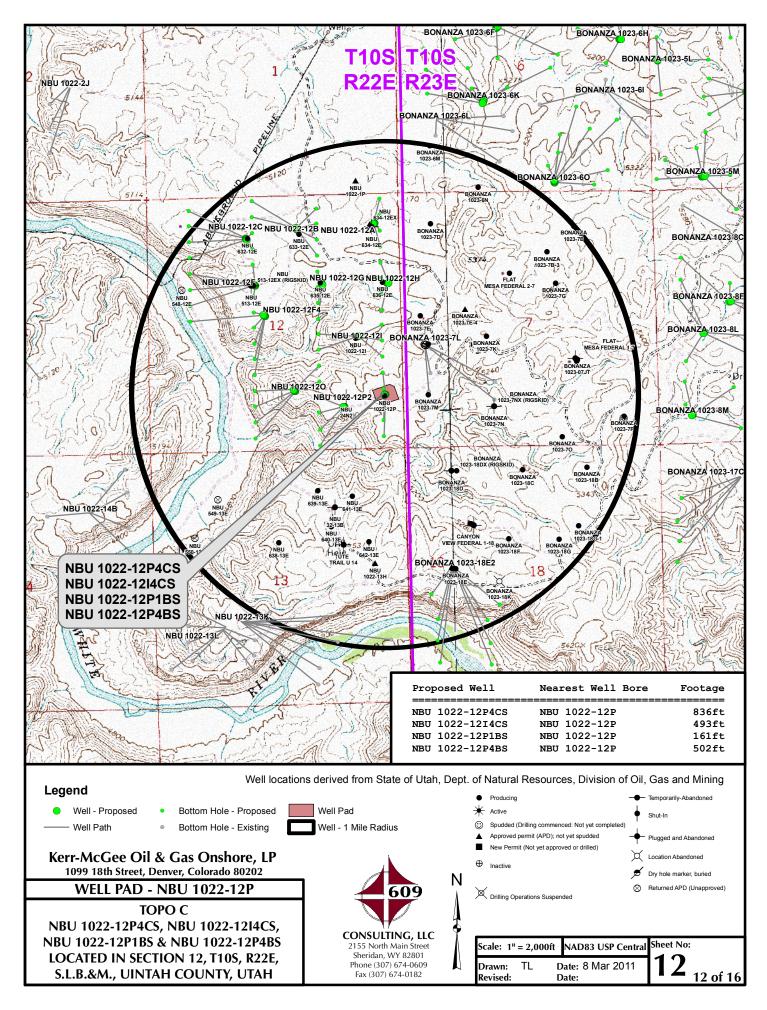
and surveying, inc. 209 NORTH 300 WEST - VERNAL, UTAH 84078

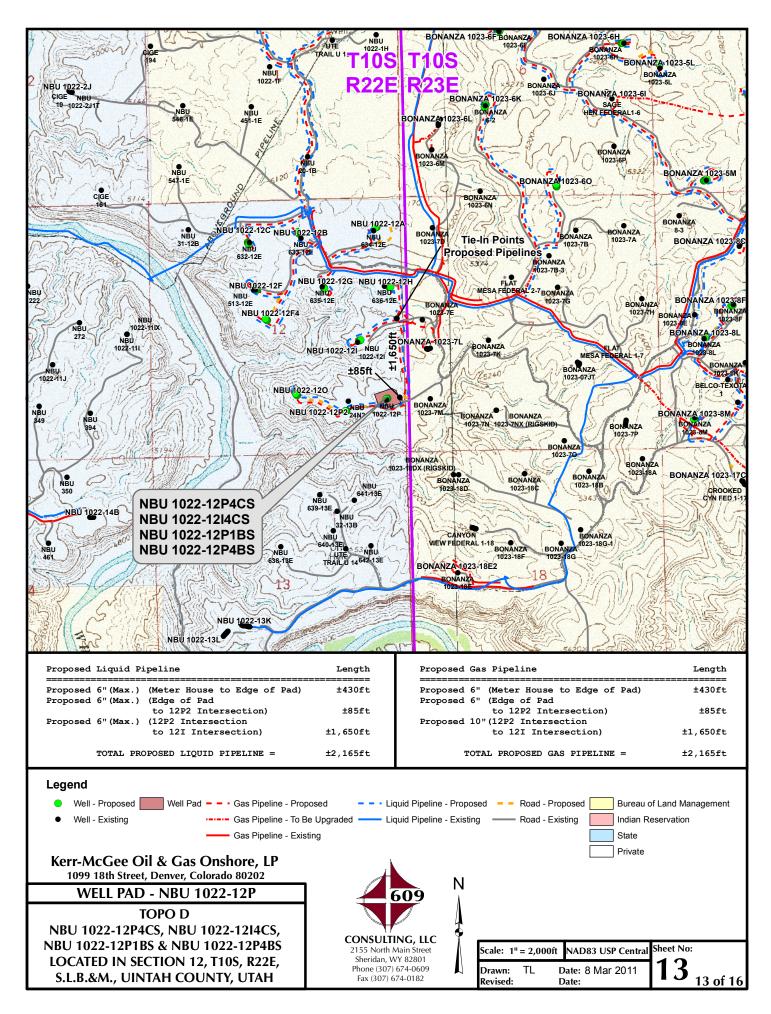
DATE PHOTOS TAKEN: 01-18-11	PHOTOS TAKEN BY: R.Y.	SHEET NO:
DATE DRAWN: 02-01-11	DRAWN BY: M.W.W.	9
Date Last Revised:		9 OF 16

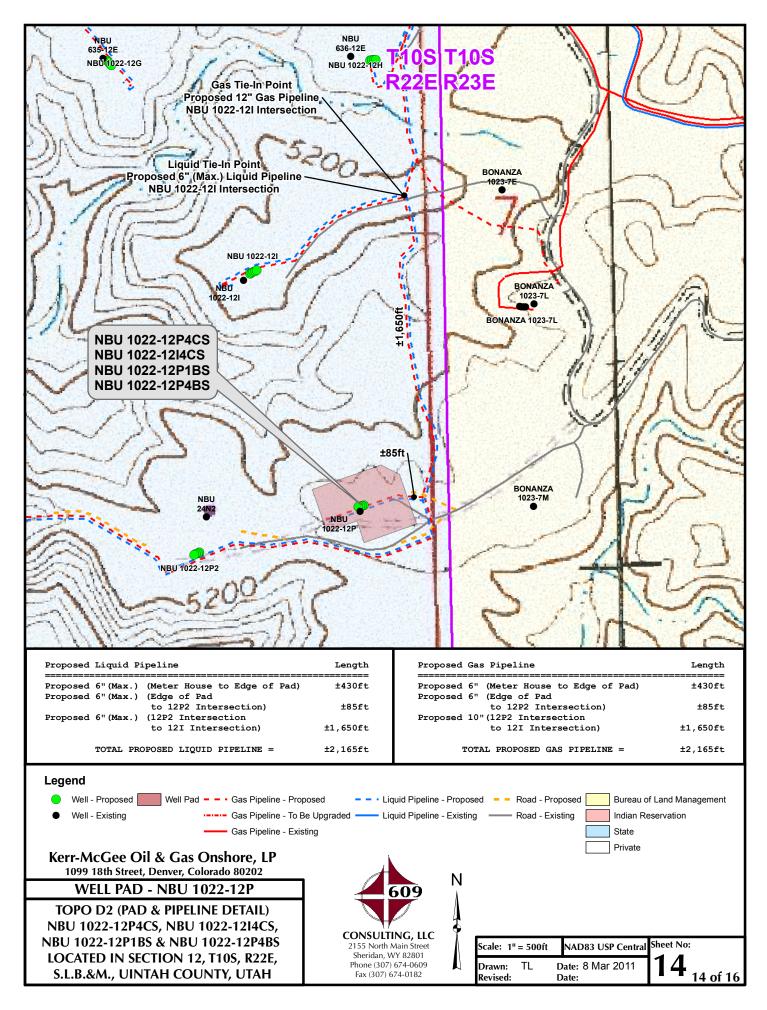
9 OF 16

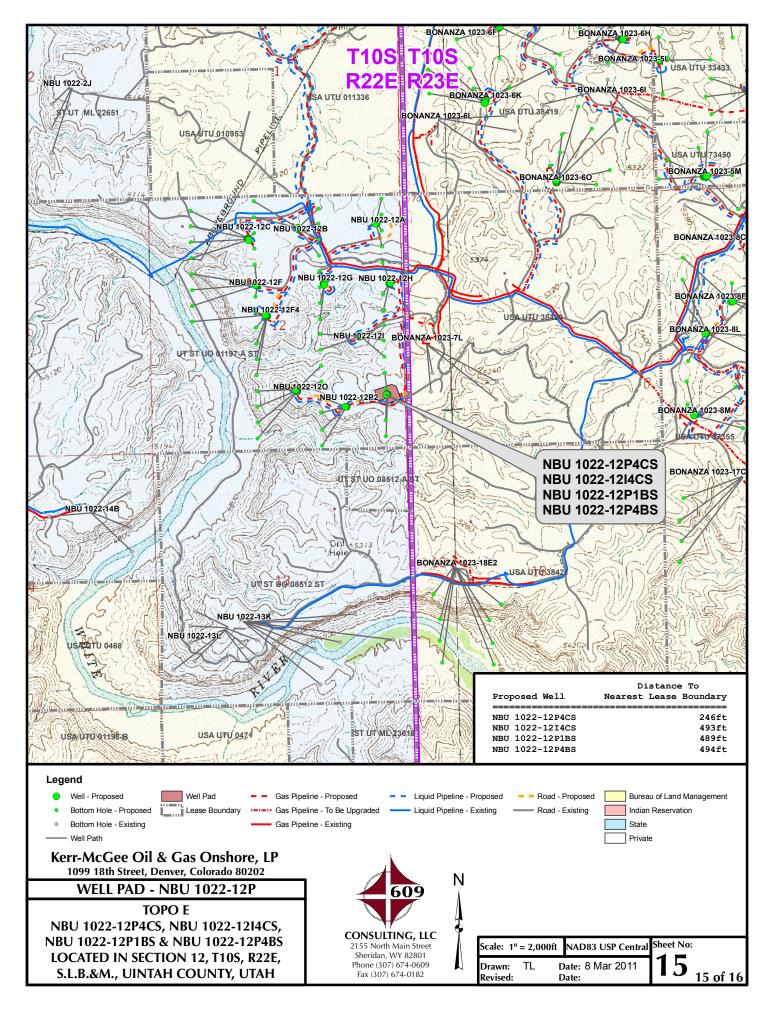












# Kerr-McGee Oil & Gas Onshore, LP WELL PAD – NBU 1022-12P WELLS – NBU 1022-12P4CS, NBU 1022-12I4CS, NBU 1022-12P1BS & NBU 1022-12P4BS Section 12, T10S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 14.4 miles to the intersection of the Fidlar Road (County B Road 3410) which road intersection is approximately 400 feet northeast of the Mountain Fuel Bridge at the White River. Exit left and proceed in a southeasterly direction along the Fidlar Road approximately 4.4 miles to the intersection of the Seven Sisters Road (County B Road 3420). Exit right and proceed in a southeasterly, then southerly direction along the Seven Sisters Road approximately 5.6 miles to a service road to the southwest. Exit right and proceed in a southwesterly direction along the service road approximately 0.2 miles to the proposed access road. Follow the road flags in a northwesterly direction approximately 250 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 48.2 miles in a southerly direction.

**SHEET 16 OF 16** 

API Well Number: 4304751969660 UTAH - UTM (feet), NAD27, Zone 12N Site: NBU 1022-12P PAD

Scientific Drilling

-750

750

1500

Vertical Section at 182.75° (1500 ft/in)

2250

3750

Rocky Mountain Operations

Well: NBU 1022-12P4BS

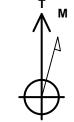
Wellbore: OH

Design: PLAN #1 PRELIMINARY



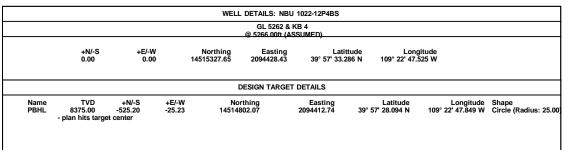
Created By: RobertScott Date: 16:38, August 19 2011

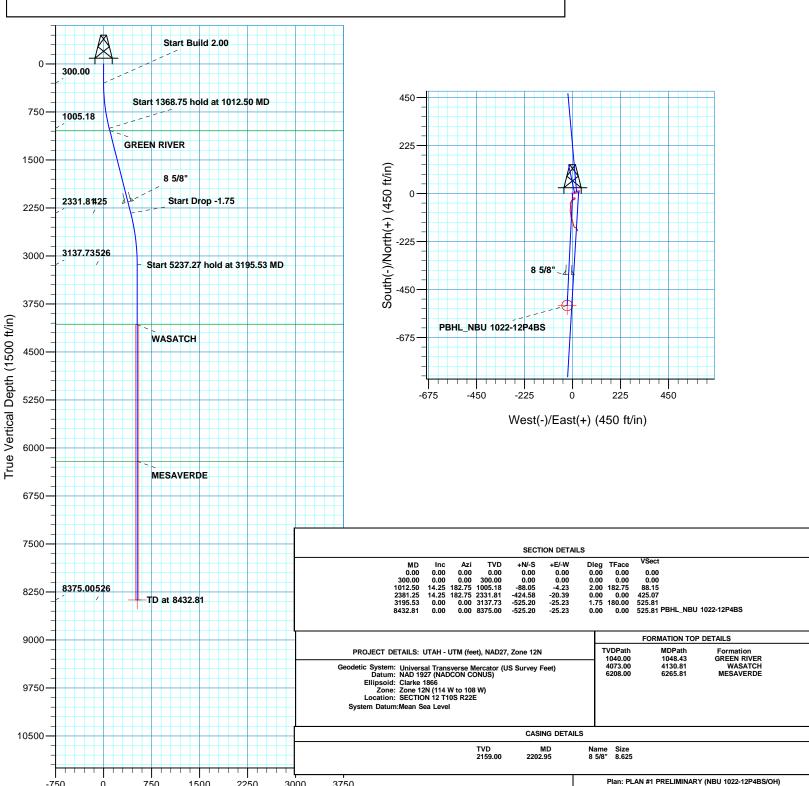
RECEIVE



Azimuths to True North Magnetic North: 11.00°

> Magnetic Field Strength: 52303.5snT Dip Angle: 65.85° Date: 08/19/2011 Model: IGRF2010







# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 1022-12P PAD NBU 1022-12P4BS

OH

Plan: PLAN #1 PRELIMINARY

# **Standard Planning Report**

19 August, 2011



**RECEIVED:** September 13, 2011



# SDI Planning Report



EDM5000-RobertS-Local Database:

Company: US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 1022-12P PAD Well: NBU 1022-12P4BS

Wellbore: ОН

Project:

Design: PLAN #1 PRELIMINARY **Local Co-ordinate Reference:** 

**Survey Calculation Method:** 

TVD Reference:

MD Reference:

North Reference:

Well NBU 1022-12P4BS GL 5262 & KB 4

@ 5266.00ft (ASSUMED)

GL 5262 & KB 4 @ 5266.00ft (ASSUMED)

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Geo Datum: Zone 12N (114 W to 108 W) Map Zone:

System Datum: Mean Sea Level

NBU 1022-12P PAD, SECTION 12 T10S R22E Site

Northing: 14,515,334.19 usft 39° 57' 33.347 N Site Position: Latitude: From: Lat/Long Easting: 2,094,447.37 usft Longitude: 109° 22' 47.280 W 0.00 ft Slot Radius: 13.200 in **Grid Convergence:** 1.04° **Position Uncertainty:** 

Well NBU 1022-12P4BS, 1105 FSL 470 FEL

**Well Position** -6.19 ft 14,515,327.65 usft 39° 57' 33.286 N +N/-S Northing: Latitude:

+E/-W -19.06 ft Easting: 2,094,428.42 usft Longitude: 109° 22' 47.525 W

**Position Uncertainty** 0.00 ft Wellhead Elevation: **Ground Level:** 5.262.00 ft

ОН Wellbore Field Strength Magnetics **Model Name** Sample Date Declination Dip Angle (°) (°) (nT) IGRF2010 08/19/11 11.00 65.85 52,304

PLAN #1 PRELIMINARY Design **Audit Notes:** PLAN 0.00 Version: Phase: Tie On Depth: Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 182.75

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,012.50	14.25	182.75	1,005.18	-88.05	-4.23	2.00	2.00	0.00	182.75	
2,381.25	14.25	182.75	2,331.81	-424.58	-20.39	0.00	0.00	0.00	0.00	
3,195.53	0.00	0.00	3,137.73	-525.20	-25.23	1.75	-1.75	0.00	180.00	
8,432.81	0.00	0.00	8,375.00	-525.20	-25.23	0.00	0.00	0.00	0.00 F	PBHL_NBU 1022-12F



Company:

# SDI **Planning Report**



EDM5000-RobertS-Local Database:

US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 1022-12P PAD Well: NBU 1022-12P4BS

Wellbore: ОН

Design: PLAN #1 PRELIMINARY Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Well NBU 1022-12P4BS

GL 5262 & KB 4

@ 5266.00ft (ASSUMED)

GL 5262 & KB 4

@ 5266.00ft (ASSUMED)

Minimum Curvature

ned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2		100 75	200.00		0.00	4	0.00	0.00	0.00
400.00	2.00	182.75	399.98	-1.74	-0.08	1.75	2.00	2.00	0.00
500.00	4.00	182.75	499.84	-6.97	-0.33	6.98	2.00	2.00	0.00
600.00	6.00	182.75	599.45	-15.68	-0.75	15.69	2.00	2.00	0.00
700.00	8.00	182.75	698.70	-27.85	-1.34	27.88	2.00	2.00	0.00
800.00		182.75	797.47					2.00	
	10.00			-43.47	-2.09	43.52	2.00		0.00
900.00	12.00	182.75	895.62	-62.53	-3.00	62.60	2.00	2.00	0.00
1,000.00	14.00	182.75	993.06	-85.00	-4.08	85.10	2.00	2.00	0.00
1,012.50	14.25	182.75	1,005.18	-88.05	-4.23	88.15	2.00	2.00	0.00
			.,500.10	30.00	1.20	30.10	2.00	2.00	0.00
	5 hold at 1012.50		1.040.00	00.00	4.05	00.00	0.00	0.00	0.00
1,048.43	14.25	182.75	1,040.00	-96.88	-4.65	96.99	0.00	0.00	0.00
GREEN RIV									
1,100.00	14.25	182.75	1,089.98	-109.56	-5.26	109.69	0.00	0.00	0.00
1,200.00	14.25	182.75	1,186.91	-134.15	-6.44	134.30	0.00	0.00	0.00
4 000 00	44.05	400 75	4 000 00	450.70	7.00	450.00	0.00	0.00	0.00
1,300.00	14.25	182.75	1,283.83	-158.73	-7.62	158.92	0.00	0.00	0.00
1,400.00	14.25	182.75	1,380.75	-183.32	-8.81	183.53	0.00	0.00	0.00
1,500.00	14.25	182.75	1,477.68	-207.91	-9.99	208.15	0.00	0.00	0.00
1,600.00	14.25	182.75	1,574.60	-232.49	-11.17	232.76	0.00	0.00	0.00
1,700.00	14.25	182.75	1,671.52	-257.08	-12.35	257.38	0.00	0.00	0.00
1,800.00	14.25	182.75	1,768.45	-281.67	-13.53	281.99	0.00	0.00	0.00
,			,						
1,900.00	14.25	182.75	1,865.37	-306.25	-14.71	306.61	0.00	0.00	0.00
2,000.00	14.25	182.75	1,962.29	-330.84	-15.89	331.22	0.00	0.00	0.00
2,100.00	14.25	182.75	2,059.22	-355.43	-17.07	355.84	0.00	0.00	0.00
2,200.00	14.25	182.75	2,156.14	-380.02	-18.25	380.45	0.00	0.00	0.00
2,202.95	14.25	182.75	2,159.00	-380.74	-18.29	381.18	0.00	0.00	0.00
8 5/8"	20	.020	2,.00.00			000	0.00	0.00	0.00
	44.05	400.75	0.050.00	-404.60	40.40	405.07	0.00	0.00	0.00
2,300.00	14.25	182.75	2,253.06		-19.43	405.07			
2,381.25	14.25	182.75	2,331.81	-424.58	-20.39	425.07	0.00	0.00	0.00
Start Drop -									
2,400.00	13.92	182.75	2,350.00	-429.14	-20.61	429.63	1.75	-1.75	0.00
2,500.00	12.17	182.75	2,447.41	-451.69	-21.70	452.21	1.75	-1.75	0.00
2 600 00	40.40	100 75	2 545 47	474.05	20.64	474 70	4 75	1 75	0.00
2,600.00	10.42	182.75	2,545.47	-471.25	-22.64	471.79	1.75	-1.75	0.00
2,700.00	8.67	182.75	2,644.08	-487.82	-23.43	488.38	1.75	-1.75	0.00
2,800.00	6.92	182.75	2,743.15	-501.37	-24.08	501.94	1.75	-1.75	0.00
2,900.00	5.17	182.75	2,842.59	-511.89	-24.59	512.48	1.75	-1.75	0.00
3,000.00	3.42	182.75	2,942.31	-519.37	-24.95	519.97	1.75	-1.75	0.00
3,100.00	1.67	182.75	3,042.21	-523.81	-25.16	524.41	1.75	-1.75	0.00
3,195.53	0.00	0.00	3,137.73	-525.20	-25.10	525.81	1.75	-1.75	185.54
			3,131.13	-525.20	-25.23	5∠5.61	1./5	-1./5	100.04
	7 hold at 3195.53								
3,200.00	0.00	0.00	3,142.19	-525.20	-25.23	525.81	0.00	0.00	0.00
3,300.00	0.00	0.00	3,242.19	-525.20	-25.23	525.81	0.00	0.00	0.00
3,400.00	0.00	0.00	3,342.19	-525.20	-25.23	525.81	0.00	0.00	0.00
2 500 00	0.00		3.442.19	E0E 00	05.00	EOE 04	0.00	0.00	0.00
3,500.00	0.00	0.00	-,	-525.20	-25.23	525.81	0.00	0.00	0.00
3,600.00	0.00	0.00	3,542.19	-525.20	-25.23	525.81	0.00	0.00	0.00
3,700.00	0.00	0.00	3,642.19	-525.20	-25.23	525.81	0.00	0.00	0.00
3,800.00	0.00	0.00	3,742.19	-525.20	-25.23	525.81	0.00	0.00	0.00
3,900.00	0.00	0.00	3,842.19	-525.20	-25.23	525.81	0.00	0.00	0.00



# SDI **Planning Report**



EDM5000-RobertS-Local Database:

Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 1022-12P PAD Well: NBU 1022-12P4BS

Wellbore: ОН

Design: PLAN #1 PRELIMINARY Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Well NBU 1022-12P4BS

GL 5262 & KB 4

@ 5266.00ft (ASSUMED)

GL 5262 & KB 4

@ 5266.00ft (ASSUMED)

Minimum Curvature

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,000.00	0.00	0.00	3,942.19	-525.20	-25.23	525.81	0.00	0.00	0.00
4,100.00	0.00	0.00	4,042.19	-525.20	-25.23	525.81	0.00	0.00	0.00
4,130.81	0.00	0.00	4,073.00	-525.20	-25.23	525.81	0.00	0.00	0.00
WASATCH	0.00	0.00	4 440 40	505.00	25.02	505.04	0.00	0.00	0.00
4,200.00 4,300.00	0.00 0.00	0.00 0.00	4,142.19 4,242.19	-525.20 -525.20	-25.23 -25.23	525.81 525.81	0.00 0.00	0.00 0.00	0.00 0.00
4,400.00	0.00	0.00	4,342.19	-525.20	-25.23	525.81	0.00	0.00	0.00
4,500.00	0.00	0.00	4,442.19	-525.20	-25.23	525.81	0.00	0.00	0.00
4,600.00	0.00	0.00	4,542.19	-525.20	-25.23	525.81	0.00	0.00	0.00
4,700.00	0.00	0.00	4,642.19	-525.20	-25.23	525.81	0.00	0.00	0.00
4,800.00	0.00	0.00	4,742.19	-525.20	-25.23	525.81	0.00	0.00	0.00
4,900.00	0.00	0.00	4,842.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,000.00	0.00	0.00	4,942.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,100.00	0.00	0.00	5,042.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,200.00	0.00	0.00	5,142.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,300.00	0.00	0.00	5,242.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,400.00	0.00	0.00	5,342.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,500.00	0.00	0.00	5,442.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,600.00	0.00	0.00	5,542.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,700.00	0.00	0.00	5,642.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,800.00	0.00	0.00	5,742.19	-525.20	-25.23	525.81	0.00	0.00	0.00
5,900.00	0.00	0.00	5,842.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,000.00	0.00	0.00	5,942.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,100.00	0.00	0.00	6,042.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,200.00	0.00	0.00	6,142.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,265.81	0.00	0.00	6,208.00	-525.20	-25.23	525.81	0.00	0.00	0.00
MESAVERD	E								
6,300.00	0.00	0.00	6,242.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,400.00	0.00	0.00	6,342.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,500.00	0.00	0.00	6,442.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,600.00	0.00	0.00	6,542.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,700.00	0.00	0.00	6,642.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,800.00	0.00	0.00	6,742.19	-525.20	-25.23	525.81	0.00	0.00	0.00
6,900.00	0.00	0.00	6,842.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,000.00	0.00	0.00	6,942.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,100.00	0.00	0.00	7,042.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,200.00	0.00	0.00	7,142.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,300.00	0.00	0.00	7,242.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,400.00	0.00	0.00	7,342.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,500.00	0.00	0.00	7,442.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,600.00	0.00	0.00	7,542.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,700.00	0.00	0.00	7,642.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,800.00	0.00	0.00	7,742.19	-525.20	-25.23	525.81	0.00	0.00	0.00
7,900.00	0.00	0.00	7,842.19	-525.20	-25.23	525.81	0.00	0.00	0.00
8,000.00	0.00	0.00	7,942.19	-525.20	-25.23	525.81	0.00	0.00	0.00
8,100.00	0.00	0.00	8,042.19	-525.20	-25.23	525.81	0.00	0.00	0.00
8,200.00	0.00	0.00	8,142.19	-525.20	-25.23	525.81	0.00	0.00	0.00
8,300.00	0.00	0.00	8,242.19	-525.20	-25.23	525.81	0.00	0.00	0.00
8,400.00	0.00	0.00	8,342.19	-525.20	-25.23	525.81	0.00	0.00	0.00
8,432.81	0.00	0.00	8,375.00	-525.20	-25.23	525.81	0.00	0.00	0.00
	1022-12P4BS								



# SDI Planning Report



Database: Company: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site: Well: NBU 1022-12P PAD

NBU 1022-12P4BS

Wellbore:

Design:

Local Co-ordinate Reference:

**Survey Calculation Method:** 

TVD Reference:

MD Reference:

North Reference:

Well NBU 1022-12P4BS

GL 5262 & KB 4

@ 5266.00ft (ASSUMED)

GL 5262 & KB 4

@ 5266.00ft (ASSUMED)

Minimum Curvature

**Design Targets** 

PLAN #1 PRELIMINARY

0.00

**Target Name** 

- hit/miss target Dip Angle - Shape

(°)

Dip Dir. (°)

(ft) 0.00 8,375.00

TVD

(ft) -525.20

Name

**Local Coordinates** 

-525.20

+E/-W

(ft)

+N/-S

(ft) -25.23

Name

+E/-W

(usft) 14,514,802.08

Northing

(usft) 2,094,412.74

Easting

39° 57' 28.094 N

Latitude

8.625

Dip

Longitude 109° 22' 47.849 W

- plan hits target center

PBHL\_NBU 1022-12P4E

- Circle (radius 25.00)

**Casing Points** 

Measured Vertical Depth Depth (ft) (ft)

2,202.95

2,159.00 8 5/8"

Casing Diameter (in)

Hole Diameter (in)

Dip

Direction

11.000

**Formations** 

Measured Vertical Depth Depth (ft) (ft)

1,048.43 1,040.00 **GREEN RIVER** 4,130.81 4,073.00 WASATCH 6,265.81 6,208.00 MESAVERDE

Vertical

**Plan Annotations** 

Measured

8,432.81

Depth Depth +N/-S (ft) (ft) 300.00 300.00 0.00 1,012.50 1,005.18 -88.05 2,381.25 2,331.81 -424.58 3,195.53 3,137.73 -525.20

8,375.00

(°) Lithology (°)

·W	
)	Comment
0.00	Start Build 2.00
-4.23	Start 1368.75 hold at 1012.50 MD
-20.39	Start Drop -1.75
-25.23	Start 5237.27 hold at 3195.53 MD
-25.23	TD at 8432.81

Surface Use Plan of Operations 1 of 9

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

	NBU 1022-12I4CS		
Surface:	1112 FSL / 451 FEL	SESE	Lot
BHL:	1574 FSL / 493 FEL	NESE	Lot
	NBU 1022-12P1BS		
Surface:	1109 FSL / 461 FEL	SESE	Lot
BHL:	1240 FSL / 489 FEL	SESE	Lot
	NBU 1022-12P4BS		
Surface:	1105 FSL / 470 FEL	SESE	Lot
BHL:	580 FSL / 494 FEL	SESE	Lot
	NBU 1022-12P4CS		
Surface:	1115 FSL / 442 FEL	SESE	Lot
BHL:	246 FSL / 491 FEL	SESE	Lot

NIDII 1000 101400

Pad: NBU 1022-12P PAD

Section 12 T10S R22E Mineral Lease: UT ST UO 01197-A ST

Uintah County, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

### A. Existing Roads:

Existing roads consist of county and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

### B. Planned Access Roads:

Two new access roads are proposed (see Topo Map B). The  $\pm 610$ ' reroutes will more closely follow the proposed gas and liquid pipelines and meet up with the existing access road at the East Section Line. Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

### C. Location of Existing and Proposed Facilities:

This pad will expand the existing pad for the NBU 1022-12P. The NBU 1022-12P well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of September 9, 2011.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

# **Gathering Facilities:**

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 2,165$ ' and the individual segments are broken up as follows:

 $\pm 430'$  (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

Surface Use Plan of Operations 3 of 9

- ±85' (0.02 miles) –New 6" buried gas pipeline from the edge of the pad to the tie-in at the proposed 1022-12P2 Intersection 10" gas pipeline. Please refer to Topo D & D2.
- ±1,650' (0.3 miles) –New 10" buried gas pipeline from the tie-in at the proposed 1022-12P2 Intersection 10" gas pipeline to the tie-in at the proposed 1022-12I Intersection 12" gas pipeline. Please refer to Topo D & D2.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 2,165$ ' and the individual segments are broken up as follows:

- ±430' (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 Pad and Pipeline Detail.
- ±85' (0.02 miles) –New 6" buried liquid pipeline from the edge of the pad to the tie-in at the proposed 1022-12P2 Intersection 6" liquid pipeline. Please refer to Topo D & D2.
- ±1,650' (0.3 miles) –New 6" buried liquid pipeline from the tie-in at the proposed 1022-12P2 Intersection 6" liquid pipeline to the tie-in at the proposed 1022-12I Intersection 6" liquid pipeline. Please refer to Topo D & D2.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

### D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

Surface Use Plan of Operations 4 of 9

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

### E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

### F. Methods for Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E

Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Ouray #1 SWD in Sec. 1 T9S R21E NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 33 T9S R21E

NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

Surface Use Plan of Operations 5 of 9

by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification.)

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20 mil or thicker, The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

Surface Use Plan of Operations 6 of 9

(CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

### G. Ancillary Facilities:

None are anticipated.

### H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

### I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

### **Interim Reclamation**

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

Surface Use Plan of Operations 7 of 9

interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

### **Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

### **Seeding and Measures Common to Interim and Final Reclamation**

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

Surface Use Plan of Operations 8 of 9

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

## J. Surface/Mineral Ownership:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

### L. Other Information:

None

NBU 1022-12I4CS/ 1022-12P1BS/ 1022-12P4BS/ 1022-12P4CS

### M. <u>Lessee's or Operators' Representative & Certification</u>:

Gina T. Becker Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6086 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

September 9, 2011



Joseph D. Johnson
1099 18TH STREET STE. 1800 • DENVER, CO
80202
720-929-6708 • FAX 720-929-7708
E-MAIL: JOE.JOHNSON@ANADARKO.COM

September 7, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 1022-12P4BS 10S-22E-Sec. 12 SESE/SESE

Surface: 1105' FSL, 470' FEL Bottom Hole: 580' FSL, 494' FEL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

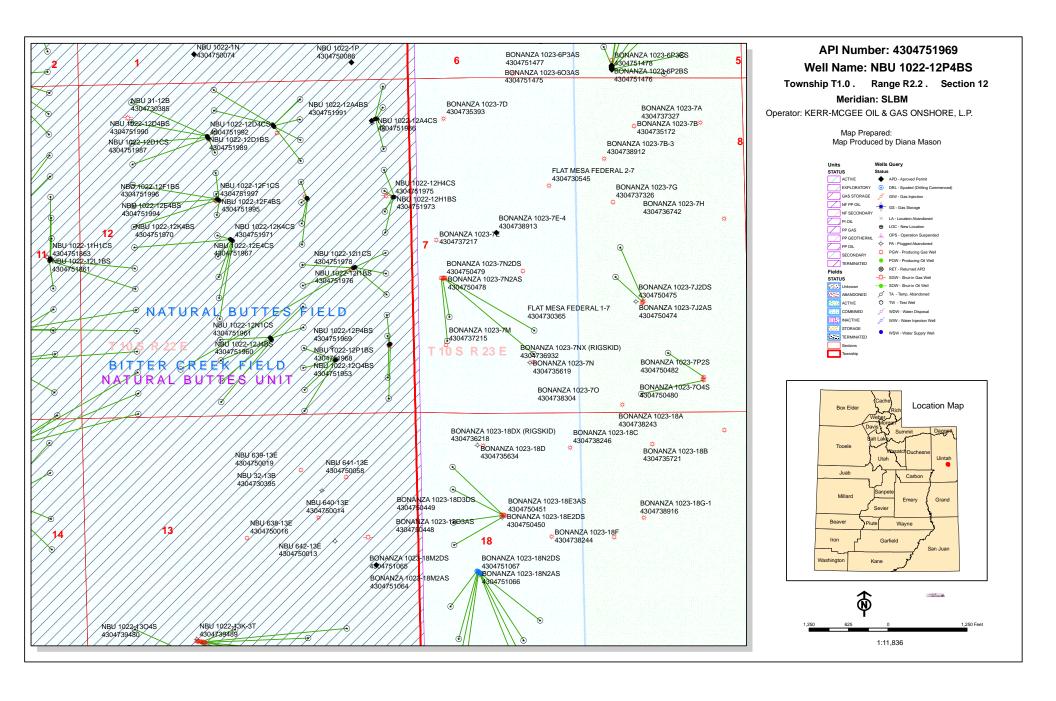
- Kerr-McGee's NBU 1022-12P4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joseph D. Johnson Landman



## **United States Department of the Interior**

#### BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

September 19, 2011

Memorandum

Assistant District Manager Minerals, Vernal District To:

From: Michael Coulthard, Petroleum Engineer

2011 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 1022-12H PAD 43-047-51941 NBU 1022-12H4BS Sec 12 T10S R22E 1846 FNL 0361 FEL BHL Sec 12 T10S R22E 2071 FNL 0491 FEL 43-047-51942 NBU 1022-12H1CS Sec 12 T10S R22E 1843 FNL 0341 FEL BHL Sec 12 T10S R22E 1740 FNL 0491 FEL 43-047-51973 NBU 1022-12H1BS Sec 12 T10S R22E 1842 FNL 0331 FEL BHL Sec 12 T10S R22E 1408 FNL 0491 FEL 43-047-51975 NBU 1022-12H4CS Sec 12 T10S R22E 1845 FNL 0351 FEL BHL Sec 12 T10S R22E 2402 FNL 0492 FEL NBU 1022-120 PAD 43-047-51943 NBU 1022-12N4BS Sec 12 T10S R22E 1224 FSL 2329 FEL BHL Sec 12 T10S R22E 0580 FSL 2150 FWL 43-047-51945 NBU 1022-12N4CS Sec 12 T10S R22E 1216 FSL 2323 FEL BHL Sec 12 T10S R22E 0251 FSL 2141 FWL 43-047-51956 NBU 1022-12J4CS Sec 12 T10S R22E 1240 FSL 2341 FEL BHL Sec 12 T10S R22E 1409 FSL 1817 FEL 43-047-51959 NBU 1022-12N1BS Sec 12 T10S R22E 1257 FSL 2352 FEL BHL Sec 12 T10S R22E 1242 FSL 2147 FWL 43-047-51960 NBU 1022-12J4BS Sec 12 T10S R22E 1249 FSL 2346 FEL

BHL Sec 12 T10S R22E 1740 FSL 1816 FEL

API #	WE:	LL NAME		LOCATION							
(Proposed PZ	WASA	ATCH-MESA VERDI	Ξ)								
43-047-51961	NBU	1022-12N1CS BHL				R22E R22E		_			
<b>NBU 1022-12B</b> 43-047-51944		1022-12B1BS BHL				R22E R22E					
43-047-51979	NBU	1022-12C1BS BHL				R22E R22E					
43-047-51980	NBU	1022-12B1CS BHL				R22E R22E					
43-047-51981	NBU	1022-12C1CS BHL				R22E R22E					
43-047-51982	NBU	1022-12B4BS BHL				R22E R22E					
		1022-12B4CS BHL				R22E R22E					
<b>NBU 1022-12P</b> 43-047-51947		1022-12P4CS BHL				R22E R22E					
43-047-51962	NBU	1022-12I4CS BHL				R22E R22E					
43-047-51968	NBU	1022-12P1BS BHL				R22E R22E					
43-047-51969	NBU	1022-12P4BS BHL				R22E R22E					
<b>NBU 1022-12P</b> 43-047-51949		1022-1201BS				R22E R22E					
43-047-51950	NBU	1022-1201CS BHL				R22E R22E					
43-047-51953	NBU	1022-1204BS BHL				R22E R22E		_			
43-047-51954 NBU 1022-12A		1022-1204CS BHL				R22E R22E					
		1022-12A1BS BHL				R22E R22E					
43-047-51952	NBU	1022-12A1CS BHL				R22E R22E					

API #	WE:	LL NAME			LO	CATIO	N			
(Proposed PZ	WASA	ATCH-MESA VERD	Ξ)							
43-047-51986	NBU	1022-12A4CS BHL								
43-047-51991	NBU	1022-12A4BS BHL								
<b>NBU 1022-12I</b> 43-047-51955			Sec	12	T10S	R22E	2333	FSL	1011	FEL
43-047-51957	NBU	1022-12J1BS BHL							1002 1814	
43-047-51958	NBU	1022-12I4BS BHL								
43-047-51976	NBU	1022-12I1BS BHL							0974 0492	
		1022-12I1CS BHL								
<b>NBU 1022-12G</b> 43-047-51963		1022-12G1CS BHL								
43-047-51972	NBU	1022-12G4BS BHL								
43-047-51974	NBU	1022-12G1BS BHL							1727 1809	
									1709 1813	
<b>NBU 1022-12F4</b> 43-047-51964		1022-12F4CS							2342 2141	
43-047-51965	NBU	1022-12K1BS BHL							2359 2142	
43-047-51966	NBU	1022-12K1CS BHL							2367 2144	
43-047-51967	NBU	1022-12E4CS BHL							2350 0822	
43-047-51970	NBU	1022-12K4BS BHL							2375 2145	
43-047-51971	NBU	1022-12K4CS BHL							2384 2146	

Page 4

API # WELL NAME

LOCATION

(Proposed PZ WASATCH-MESA VERDE)

#### NBU 1022-12CPAD

NBU 1022-12C	PAD							
43-047-51984	NBU	1022-12C4F					2020 2134	
43-047-51985	NBU						2031 2135	
43-047-51987	NBU	1022-12D10					2016 0819	
43-047-51989	NBU	1022-12D1	-				2013 0823	
43-047-51990	NBU	1022-12D4I					2024 0819	
43-047-51992							2027 0820	
NBU 1022-12F	PAD							
43-047-51988	NBU	1022-12E1E					2146 0820	
43-047-51993	NBU	1022-12E10					2154 0821	
43-047-51994	NBU	1022-12E4I					2170 0821	
43-047-51995	NBU	1022-12F4F					2187 2140	
43-047-51996	NBU	1022-12F1F					2179 2137	
43-047-51997	NBU						2162 2138	

## Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals,
email=Michael, Coulthard@blm.gov, c=US
Date: 2011.09.19 14:47:24-0600'

bcc: File - Natural Buttes Unit

Division of Oil Gas and Mining

Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:9-19-11

From: Diana Mason

To:

**Subject:** Fwd: Kerr McGee APD approvals

The following APDs have been approved by SITLA including arch and paleo clearance.

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NBU 1022-12A1BS (4304751951)
NBU 1022-12A1CS (4304751952)
NBU 1022-12A4CS (4304751986
)NBU 1022-12A4BS (4304751991)
NBU 1022-12J1CS (4304751955)
NBU 1022-12J1BS (4304751957)
NBU 1022-12I4BS (4304751958)
NBU 1022-12I1BS (4304751976)
NBU 1022-12I1CS (4304751978)
NBU 1022-12B1BS (4304751944
)NBU 1022-12C1BS (4304751979)
NBU 1022-12B1CS (4304751980)
)NBU 1022-12C1CS (4304751981)
NBU 1022-12B4BS (4304751982)
NBU 1022-12B4CS ( 4304751983
)NBU 1022-12H4BS ( 4304751941)
NBU 1022-12H1CS (4304751942)
NBU 1022-12H1BS (4304751973)
NBU 1022-12H4CS (4304751975)
NBU 1022-12F4CS (4304751964)
NBU 1022-12K1BS (4304751965)
NBU 1022-12K1CS (4304751966)
NBU 1022-12E4CS (4304751967)
NBU 1022-12K4BS (4304751970)
NBU 1022-12K4CS (4304751971)
NBU 1022-1201BS (4304751949)
NBU 1022-1201CS (4304751950)
NBU 1022-12O4BS (4304751953)
NBU 1022-1204CS (4304751954)
NBU 1022-12P4CS (4304751947)
NBU 1022-12I4CS (4304751962)
NBU 1022-12P1BS (4304751968)
NBU 1022-12P4BS (4304751969)
NBU 1022-12G1CS (4304751963)
NBU 1022-12G4BS (4304751972)
NBU 1022-12G1BS (4304751974)
NBU 1022-12G4CS (4304751977)
NBU 1022-12N4BS (4304751943)
NBU 1022-12N4CS (4304751945)
NBU 1022-12J4CS (4304751956)
NBU 1022-12N1BS (4304751959)
NBU 1022-12J4BS (4304751960)
NBU 1022-12N1CS (4304751961)
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-Jim Davis

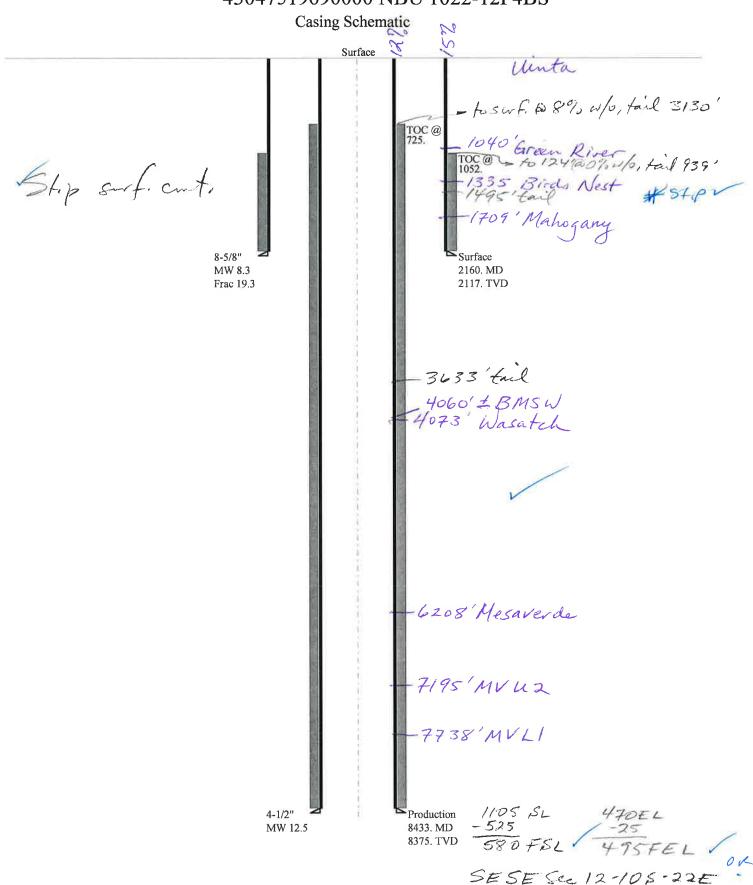
Jim Davis Utah Trust Lands Administration jimdavis1@utah.gov Phone: (801) 538-5156

#### BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-12P4BS 43047519690000

Serting   Rear	XXV II XV							_	-	
Casing Store**	Well Name		KERR-MCGEE OIL & GAS ONSHO					BU	1022-12P4B	
Setting Depth (TVD)	<u> </u>		Surf	P	Prod			<u>  </u> .		
Previous Shoe Setting Depth (TVD)	Casing Size(")		8.625	4	.500			<u>[</u>		
Max Mud Weight (ppg)	Setting Depth (TVD)		2117	8	375			[.		
Dept	Previous Shoe Setting Dept	h (TVD)	40	2	117					
Casing Internal Vield (ps)   Signo   1770   Signo	Max Mud Weight (ppg)		8.3	1:	2.5			1		
Calculations	BOPE Proposed (psi)		500	5	6000					
Calculations	Casing Internal Yield (psi)		3390	7	780	Ī		Ī		
Max BIF (psi)         0.522*Setting Depth*Mw         [074]         POPE Adequate For Drilling And Setting Casing at MASP (Gas) (psi)         MAS BIF (0.12*Setting Depth   600   600   700   600	Operators Max Anticipated	l Pressure (psi)	5360	1:	2.3			[		
MASP (Gas) (psi)   Max BHP-(0.12*Setting Depth   600   Mix	Calculations	Suri	f String				8.62	25	**	
MASP (Gas) (psi)         Max BHP-0.12*Setting Depth         660         NO         ar detill           MASP (Gas/Mud) (psi)         Max BHP-0.22*Setting Depth         448         YES         OK           Resoure At Previous Sho         Max BHP-0.22*Setting Depth - Previous Shoe Depth         448         YES         OK           Required Casing/BOPE Test Pressure=         2117         psi         *Assumes 1psi/ft frac gradient           Max BHP (psi)         0.52*Setting Depth*NW=         5444         Pressure Allowed         *Assumes 1psi/ft frac gradient           MASP (Gas) (psi)         Max BHP (0.12*Setting Depth*NW=         5443         YES         C           MASP (Gas/Mud) (psi)         Max BHP (0.12*Setting Depth=         44.30         YES         C           MASP (Gas/Mud) (psi)         Max BHP (0.12*Setting Depth=         6602         YES         C           Pressure At Previous Shoe         Max BHP-0.22*(Setting Depth=Previous Shoe Depth=         6602         YES         C           Required Casing/BOPE Test pressure         5600         psi         Assumes 1psi/ft frac gradient           MASP (Gas) (psi)         Max BHP-0.22*(Setting Depth=Previous Shoe Depth=Previous Shoe Depth=         7000         Psi         Assumes 1psi/ft frac gradient           MASP (Gas/Mud) (psi)         Max BHP-0.22*Setting Depth=Previous	Max BHP (psi)		.052*Setti	ing l	Depth*M	W=	914			
MASP (Gas/Mud) (psi)         Max BHP-(0.22*Setting Depth         4as         VES         ○ Can Full Expected Pressure Be Held At Previous Sale Depth           Pressure At Previous Shoe         Max BHP-22*(Setting Depth - Previous Shoe Depth*)         457         Iso         Reasonable for area           Required Casing/BOPE Test Pressure         2117         psi         *Assumes Ipsi/ft frac gradient           Calculations         Prod String         4.500         **           Max BIIP (psi)         .0.52*Setting Depth*MW         5602         YES           MASP (Gas) (psi)         Max BHP-(0.12*Setting Depth         4639         YES           MASP (Gas/Mud) (psi)         Max BHP-(0.12*Setting Depth         5602         YES         ○           Pressure At Previous Shoe         Max BHP-(0.22*Setting Depth         4639         YES         ○           Pressure At Previous Shoe         Max BHP-(0.22*Setting Depth         4639         YES         ○           Required Casing/BOPE Test Pressure         5602         YES         ○           *Max Pressure Allowed @ Previous Casing Shoe         1217         Pressure At Previous Pressure Be Held At Previous Shoe         Pressure At Previous Shoe         **         **           Max BHP (psi)         .0.52*Setting Depth*MW									BOPE Ade	equate For Drilling And Setting Casing at Dept
	MASP (Gas) (psi)	Max	x BHP-(0.12*	*Set	tting Dept	h)=	660		NO	air drill
Pressure At Previous Shoe	MASP (Gas/Mud) (psi)	Max	x BHP-(0.22*	*Set	tting Dept	h)=	448	]	YES	ОК
Required Casing/BOPE Test Pressure  *Max Pressure Allowed @ Previous Casing Shoe=  *Calculations  *Max BHP (psi)  *Max BHP (psi)  *Max BHP (22*Setting Depth*MW   5600   7									*Can Full	Expected Pressure Be Held At Previous Shoe?
*Max Pressure Allowed @ Previous Casing Shoe=  **Max Pressure Allowed @ Previous Casing Shoe=  **Max BHP (psi)  **Assumes Ipsi/ft frac gradient  **BOPE Adequate For Drilling And Setting Casing at MASP (Gas) (psi)  **Max BHP-(0.12*Setting Depth*   4430   7430	Pressure At Previous Shoe	Max BHP22*(Setting De	epth - Previou	us S	Shoe Dept	h)=	457	]	NO	Reasonable for area
Calculations   Prod String   4,500	Required Casing/BOPE Te	equired Casing/BOPE Test Pressure=					2117	]	psi	
Max BHP (psi)         .055*Setting Depth*MW=   5444             5444	*Max Pressure Allowed @	Previous Casing Shoe=					40	Ī	psi *Ass	umes 1psi/ft frac gradient
Max BHP (psi)         .052*Setting Depth*MW=   5444             5444	Calculations	Proc	l String				4.50	00	"	
MASP (Gas) (psi) Max BHP-(0.12*Setting Depth)   4439   YES   OK  MASP (Gas/Mud) (psi) Max BHP-(0.22*Setting Depth)   3602   YES   OK  Pressure At Previous Shoe   Max BHP-22*(Setting Depth - Previous Shoe Depth)   4067   NO   Reasonable  Required Casing/BOPE Test Pressure   5000   psi   *Assumes 1 psi/ft frac gradient  Calculations   String   "  Max BHP (psi)   .052*Setting Depth*MW      Max BHP (Gas) (psi)   Max BHP-(0.12*Setting Depth)     NO   Reasonable  Max BHP (Gas) (psi)   Max BHP-(0.12*Setting Depth)     NO      Max Pressure At Previous Shoe   Max BHP-22*(Setting Depth - Previous Shoe Depth)     NO      Max Pressure At Previous Shoe   Max BHP-22*(Setting Depth - Previous Shoe Depth)     NO      Max Pressure At Previous Shoe   Max BHP-22*(Setting Depth - Previous Shoe Depth)     NO      Required Casing/BOPE Test Pressure     Si * Assumes 1 psi/ft frac gradient  Max Pressure At Previous Shoe   Max BHP-22*(Setting Depth - Previous Shoe Depth)     NO      Required Casing/BOPE Test Pressure     Si * Assumes 1 psi/ft frac gradient  Calculations   String     NO      Max BHP (psi)              Max BHP (psi)                Max BHP (psi)                  Max BHP (psi)                    Max BHP (psi)                            Max BHP (psi)	Max BHP (psi)			ing l	Depth*M	W=	5444	╗		
MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)   3802   YES   OK    Pressure At Previous Shoe   Max BHP-(2.2*(Setting Depth - Previous Shoe Depth)   4067   NO   Reasonable    Required Casing/BOPE Test Pressure   5000   psi    *Max Pressure Allowed   Previous Casing Shoe=   2117   psi *Assumes 1psi/ft frac gradient    Calculations   String   "   Max BHP (psi)   OS2*Setting Depth*MW=     OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth*MW=   OS2*Setting Depth   OS2*Setting D							1.2	=	BOPE Ade	equate For Drilling And Setting Casing at Dept
*Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe Max BHP22*(Setting Depth - Previous Shoe Depth) **Required Casing/BOPE Test Pressure=  **Max Pressure Allowed Previous Casing Shoe=  **Max Pressure Allowed Previous Casing Shoe=  **String  **Max BHP (psi)  **Depth - Previous Shoe Depth   Moo   Moo   Moo    **Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP-(0.12*Setting Depth   Moo    **Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP-(0.12*Setting Depth   Moo    **Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth - Previous Shoe Depth   Moo    **Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth - Previous Shoe Depth   Moo    **Can Full Expected Pressure Be Held At Previous S Pressure At Previous Casing Shoe=  **Max Pressure Allowed Previous Casing Shoe=  **Max Pressure Allowed Previous Casing Shoe=  **Max BHP (psi)  **Assumes 1 psi/ft frac gradient  **Can Full Expected Pressure Be Held At Previous S Pressure At Previous Casing Shoe=  **Max BHP (psi)  **Max	MASP (Gas) (psi)	Max	x BHP-(0.12*	*Set	tting Dept	h)=	4439	╗	YES	
**Can Full Expected Pressure Be Held At Previous Shoe Pressure Be Held At Previous Shoe Pressure At Previous Shoe Max BHP22*(Setting Depth - Previous Shoe Depth)   4067   NO   Reasonable   Required Casing/BOPE Test Pressure   5000   psi    **Max Pressure Allowed Previous Casing Shoe=   2117   psi **Assumes 1psi/ft frac gradient    **Calculations   String   "   Max BHP (psi)	MASP (Gas/Mud) (psi)	Max	x BHP-(0.22*	*Set	tting Dept	h)=	3602	Ŧ	YES	OK
Required Casing/BOPE Test Pressure=  *Max Pressure Allowed @ Previous Casing Shoe=  String  Max BHP (psi)  Max BHP (psi)  Max BHP-(0.12*Setting Depth*MW=  Required Casing/BOPE Test Pressure=  Max Pressure At Previous Shoe  Max BHP22*(Setting Depth*Previous Shoe Depth)=  *Max BHP (psi)  Max BHP (psi)  Max BHP-(0.12*Setting Depth)=  Max BHP-(0.22*Setting Depth)=  Max BHP22*(Setting Depth - Previous Shoe Depth)=  Max BHP (psi)  Max BHP-(0.12*Setting Depth*MW=  Max BHP (psi)  Max BHP (psi)  Max BHP-(0.12*Setting Depth*MW=  Max BHP-(0.12*Setting Depth*MW=  Max BHP-(0.12*Setting Depth*MW=  Max BHP-(0.22*Setting Depth*MW=  Max B			·			_	1,5552	=	<u>'</u>	<u>  -                                 </u>
*Max Pressure Allowed & Previous Casing Shoe=  *Max Pressure Allowed & Previous Casing Shoe=  *Max BHP (psi)  *Max BHP (psi)  *Max BHP (0.12*Setting Depth*MW*  *Max BHP (0.22*Setting Depth*)  *Max BHP (psi)  *Max BHP (psi)  *Max BHP (0.12*Setting Depth*MW*)  *Max BHP (0.12*Setting Depth*)  *Max BHP (0.12*Setting Dept	Pressure At Previous Shoe	Max BHP22*(Setting D	epth - Previou	us S	Shoe Dept	h)=	4067	╗	NO	Reasonable
*Max Pressure Allowed @ Previous Casing Shoe=  *Max BHP (psi)  *Max BHP (psi)  *Max BHP-(0.12*Setting Depth*MW=  *Max Pressure At Previous Shoe  *Max BHP-(2.2*Setting Depth*MW=  *Max BHP-(3.2*Setting Depth*MW=  *Max BHP-(3.2*Setting Depth*MW=  *Max BHP-(3.2*Setting Depth*MW=  *Max BHP-(3.2*Setting Depth*MW=  *Max Pressure At Previous Shoe  *Max BHP-(3.2*Setting Depth*MW=  *Max Pressure Allowed @ Previous Casing Shoe=  *Max BHP (psi)  *Max BHP-(3.2*Setting Depth*MW=  *Max BHP-(3.2*Setting Dept	Required Casing/BOPE Te	st Pressure=					5000	Ŧ	psi	
Max BHP (psi)  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*MW=  .052*Sett	*Max Pressure Allowed @	Previous Casing Shoe=							psi *Ass	umes 1psi/ft frac gradient
Max BHP (psi)  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*MW=  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*  .052*Setting Depth*MW=  .052*Sett								_	l	
MASP (Gas) (psi)  Max BHP-(0.12*Setting Depth)=   No    MASP (Gas/Mud) (psi)   Max BHP-(0.22*Setting Depth)=   No    Required Casing/BOPE Test Pressure=   psi *Assumes 1psi/ft frac gradient  Calculations   String   String    Max BHP (psi)   .052*Setting Depth *Mw=    MASP (Gas) (psi)   Max BHP-(0.12*Setting Depth)=   BOPE Adequate For Drilling And Setting Casing at MASP (Gas) (psi)   Max BHP-(0.12*Setting Depth)=   No    Max BHP (0.12*Setting Depth)=   Mo    MASP (Gas/Mud) (psi)   Max BHP-(0.22*Setting Depth)=   No    Max BHP (0.12*Setting Depth)=   No    MASP (Gas/Mud) (psi)   Max BHP-(0.22*Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth)=   No    *Can Full Expected Pressure Be Held At Previous S Pressure Be Held At Previous S Pressure At Previous S		S		. ,	D 4404	***		_		
MASP (Gas) (psi)  MASP (Gas/Mud) (psi)  MASP (Gas/Mud) (psi)  MAX BHP-(0.12*Setting Depth)=  MASP (Gas/Mud) (psi)  MAX BHP-(0.22*Setting Depth)=  MASP (Gas/Mud) (psi)  MAX BHP22*(Setting Depth - Previous Shoe Depth)=  Pressure At Previous Shoe  MAX BHP22*(Setting Depth - Previous Shoe Depth)=  MAX Pressure Allowed Previous Casing Shoe=  MAX BHP (psi)  MAX BHP (psi)  MAX BHP (0.12*Setting Depth)=  MAX BHP (Gas/Mud) (psi)  MAX BHP-(0.22*Setting Depth)=  MAX BHP-(0.22*Setting Depth)=  MAX Pressure At Previous Shoe  MAX BHP22*(Setting Depth - Previous Shoe Depth)=  MAX BHP22*(Setting Depth - Previous Shoe Depth)=	Max BHP (psi)		.052*Setti	ıng	Deptn*M	W=		4	DODE 4.1	
MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth - Previous Shoe Depth)   psi    *Max Pressure Allowed @ Previous Casing Shoe   psi *Assumes 1psi/ft frac gradient  Calculations   String   "  Max BHP (psi)   .052*Setting Depth*MW        Max BHP (gas) (psi)   Max BHP-(0.12*Setting Depth)   No    MASP (Gas/Mud) (psi)   Max BHP-(0.22*Setting Depth)   No    MASP (Gas/Mud) (psi)   Max BHP-(0.22*Setting Depth)   No    *Can Full Expected Pressure Be Held At Previous S Pressure At Previous Shoe   Max BHP22*(Setting Depth - Previous Shoe Depth)   No	MASD (Coo) (coo)	Mar	- DIID (0.12*	*C-4	4: D	1. \_		=		equate For Drilling And Setting Casing at Dept
Pressure At Previous Shoe Max BHP22*(Setting Depth - Previous Shoe Depth)=						_	-	╣		
Pressure At Previous Shoe  Max BHP22*(Setting Depth - Previous Shoe Depth)= psi  *Max Pressure Allowed @ Previous Casing Shoe= psi *Assumes 1psi/ft frac gradient  Calculations  String  Max BHP (psi)  O52*Setting Depth*MW= BOPE Adequate For Drilling And Setting Casing at MASP (Gas) (psi)  Max BHP-(0.12*Setting Depth)= NO  MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)= NO  *Can Full Expected Pressure Be Held At Previous Shoe Depth)= NO  Pressure At Previous Shoe	MASP (Gas/Mud) (psi)	Max	к внр-(0.22*	*Set	tting Dept	n)=		븨	1	
Required Casing/BOPE Test Pressure=  *Max Pressure Allowed @ Previous Casing Shoe=    psi *Assumes 1psi/ft frac gradient    Psi *Assumes 1psi/ft f	Duogguno A4 D CI	May DIID 20*/C #: P	anth D- '	0	Thos D	-la \		۲		Expected Pressure Be Held At Previous Shoe?
*Max Pressure Allowed @ Previous Casing Shoe=    String			epin - Previoi	us S	snoe Depi	.n)=		븳	-	
Calculations  String  Max BHP (psi)  .052*Setting Depth*MW=  BOPE Adequate For Drilling And Setting Casing at  MASP (Gas) (psi)  Max BHP-(0.12*Setting Depth)=  MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)=  *Can Full Expected Pressure Be Held At Previous Some Depth)=  Pressure At Previous Shoe  Max BHP22*(Setting Depth - Previous Shoe Depth)=							<u> </u>			
Max BHP (psi)  .052*Setting Depth*MW=  BOPE Adequate For Drilling And Setting Casing at  MASP (Gas) (psi)  Max BHP-(0.12*Setting Depth)=  MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)=  *Can Full Expected Pressure Be Held At Previous Some Depth)=  Pressure At Previous Shoe  Max BHP22*(Setting Depth - Previous Shoe Depth)=	*Max Pressure Allowed @	Previous Casing Shoe=				_			psi *Ass	umes 1psi/ft frac gradient
MASP (Gas) (psi)  Max BHP-(0.12*Setting Depth)=  MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)=  Max BHP-(0.22*Setting		S							"	
MASP (Gas) (psi)  Max BHP-(0.12*Setting Depth)=  MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)=  *Can Full Expected Pressure Be Held At Previous Solution of the state of	Max BHP (psi)		.052*Setti	ing l	Depth*M	W=		ĺ		
MASP (Gas/Mud) (psi)  Max BHP-(0.22*Setting Depth)=  *Can Full Expected Pressure Be Held At Previous S  Pressure At Previous Shoe  Max BHP22*(Setting Depth - Previous Shoe Depth)=  NO  NO  NO						_			BOPE Ade	equate For Drilling And Setting Casing at Dept
*Can Full Expected Pressure Be Held At Previous S  Pressure At Previous Shoe Max BHP22*(Setting Depth - Previous Shoe Depth)= NO						_	1		NO	
Pressure At Previous Shoe Max BHP22*(Setting Depth - Previous Shoe Depth)=	MASP (Gas/Mud) (psi)	Max	x BHP-(0.22*	*Set	tting Dept	h)=			<u>.</u>	
									*Can Full	Expected Pressure Be Held At Previous Shoe?
D : LC : (DODE T + D	Pressure At Previous Shoe	Max BHP22*(Setting De	epth - Previou	us S	Shoe Dept	h)=			NO	
Required Casing/BOPE Test Pressure=	Required Casing/BOPE Te	st Pressure=							psi	

\*Max Pressure Allowed @ Previous Casing Shoe= psi \*Assumes 1psi/ft frac gradient

## 43047519690000 NBU 1022-12P4BS



43047519690000 NBU 1022-12P4BS Well name:

KERR-MCGEE OIL & GAS ONSHORE, L.P. Operator:

Surface String type:

Project ID: 43-047-51969

COUNTY UINTAH Location:

Minimum design factors: **Environment:** Design parameters:

Collapse: H2S considered? **Collapse** No 74 °F Mud weight: 8.330 ppg Design factor 1.125 Surface temperature: 104 °F Design is based on evacuated pipe. Bottom hole temperature:

Temperature gradient: 1.40 °F/100ft

Minimum section length: 100 ft **Burst:** 

1.00 1,052 ft Design factor Cement top: **Burst** 

Max anticipated surface

916

1

pressure: 1,901 psi Internal gradient: 0.120 psi/ft Directional Info - Build & Drop **Tension:** Calculated BHP 2,155 psi 8 Round STC: 1.80 (J) Kick-off point 300 ft

8 Round LTC: 1.70 (J) Departure at shoe: 371 ft 1.60 (J) Maximum dogleg: 2 °/100ft No backup mud specified. Buttress:

14.25° Premium: 1.50 (J) Inclination at shoe: Re subsequent strings: 1.50 (B) Body yield:

Tension is based on air weight.

Next mud weight: 12.500 ppg Neutral point: 1,892 ft Next setting BHP: 5,476 psi 19.250 ppg Fracture mud wt: Fracture depth: 2,160 ft

59.3

1.57

Injection pressure: 2,160 psi

348

8,433 ft

5.87 J

Next setting depth:

True Vert Measured Segment Nominal End Drift Est. Run Weight Depth Depth Diameter Seq Length Size Grade **Finish** Cost (ft) (in) (lbs/ft) (ft) (ft) (in) (\$) 1 2160 8.625 28.00 I-55 LT&C 2117 2160 7.892 85536 Run Collapse Collapse Collapse **Burst** Burst Burst Tension **Tension** Tension Seq Load Strength Design Load Strength Design Load Strength Design (psi) **Factor** (psi) (psi) **Factor** (kips) (kips) **Factor** (psi)

3390

2155

Helen Sadik-Macdonald Prepared Div of Oil, Gas & Mining by:

1880

2.052

Phone: 801 538-5357 FAX: 801-359-3940

Date: November 23,2011 Salt Lake City, Utah

Collapse is based on a vertical depth of 2117 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:

43047519690000 NBU 1022-12P4BS

Operator:

KERR-MCGEE OIL & GAS ONSHORE, L.P.

String type:

Production

Project ID: 43-047-51969

Location:

UINTAH

COUNTY

12.500 ppg

Design parameters: **Collapse** 

Mud weight: Design is based on evacuated pipe.

Minimum design factors:

**Environment:** 

Collapse:

1.125 Design factor

H2S considered? Surface temperature:

No 74 °F

Bottom hole temperature: Temperature gradient:

191 °F

Minimum section length:

1.40 °F/100ft 100 ft

Burst:

Design factor

Cement top: 1.00

725 ft

**Burst** 

Max anticipated surface

No backup mud specified.

pressure: Internal gradient: Calculated BHP

3,596 psi 0.220 psi/ft

5,438 psi

Tension: 8 Round STC:

8 Round LTC: Buttress:

Premium: Body yield: 1.60 (J) 1.50 (J) 1.60 (B)

1.80 (J)

1.80 (J)

Directional Info - Build & Drop

Kick-off point 300 ft Departure at shoe: 526 ft

Maximum dogleg: Inclination at shoe: 2 °/100ft 0°

Tension is based on air weight. Neutral point:

6,868 ft

Run	Segment		Nominal		End	True Vert	Measured	Drift	Est.
Seq	Length (ft)	Size (in)	Weight (lbs/ft)	Grade	Finish	Depth (ft)	Depth (ft)	Diameter (in)	Cost (\$)
1	8433	4.5	11.60	I-80	LT&C	8375	8433	3.875	111316
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load (psi)	Strength (psi)	Design Factor	Load (psi)	Strength (psi)	Design Factor	Load (kips)	Strength (kips)	Design Factor
1	5438	6360	1.169	5438	7780	1.43	97.2	212	2.18 J

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Mining by:

Phone: 801 538-5357 FAX: 801-359-3940

Date: November 23,2011 Salt Lake City, Utah

Collapse is based on a vertical depth of 8375 ft, a mud weight of 12.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

## **ON-SITE PREDRILL EVALUATION**

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.

Well Name NBU 1022-12P4BS

API Number 43047519690000 APD No 4626 Field/Unit NATURAL BUTTES

**Location: 1/4,1/4** SESE **Sec** 12 **Tw** 10.0S **Rng** 22.0E 1105 FSL 470 FEL

GPS Coord (UTM) 638390 4424283 Surface Owner

#### **Participants**

Andy Lytle, Sheila Wopsock, Charles Chase, Grizz Oleen, Jaime Scharnowski, Doyle Holmes, (Kerr McGee). John Slaugh, Mitch Batty, (Timberline). Jim Davis (SITLA). Ben Williams (DWR). David Hackford, (DOGM).

#### Regional/Local Setting & Topography

The general area is in the southeast portion of the Natural Buttes Unit. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River is 3900'. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 48.2 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads. Three wells, in addition to this one will be directionally drilled from this pad. (For a total of four new wells). There is one existing well on this pad. (The NBU 1022-12P). At this time, the decision rather to PA or TA this well has not been made. This proposed location takes in an existing location, and very little new construction will be necessary except for digging the reserve pit. The existing access road will be re-routed for 250 feet. The location runs in an east-west direction along the top of a flat topped ridge. This ridge breaks off sharply into rugged secondary canyons on the southwest, northwest and west sides. New construction will consist of approx. 50 feet on all sides of the existing pad, and an additional 50 feet on the east side for reserve pit and excess cut stockpile. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and should be a suitable location for five wells, and is on the best site available in the immediate area.

#### **Surface Use Plan**

**Current Surface Use** 

Grazing Wildlfe Habitat Existing Well Pad

New Road Miles Well Pad Src Const Material Surface Formation

0.05 Width 352 Length 425 Onsite UNTA

**Ancillary Facilities** N

Waste Management Plan Adequate?

**Environmental Parameters** 

Affected Floodplains and/or Wetlands N

Flora / Fauna

12/12/2011 Page 1

Prickly pear, wild onion, shadscale, mat saltbrush, Indian ricegrass, halogeton, pepper grass, annuals and curly Vegetation is a salt desert shrub type. Principal species present are cheatgrass, black sagebrush, stipa, mesquite grass.

Sheep, antelope, coyote, raptors, small mammals and birds.

#### **Soil Type and Characteristics**

Rocky sandy clay loam.

**Erosion Issues** N

**Sedimentation Issues** N

Site Stability Issues N

**Drainage Diverson Required?** N

Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run? Y Paleo Potental Observed? N Cultural Survey Run? Y Cultural Resources? N

#### **Reserve Pit**

Site-Specific Factors	Site R		
Distance to Groundwater (feet)	100 to 200	5	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
<b>Annual Precipitation (inches)</b>		0	
Affected Populations			
<b>Presence Nearby Utility Conduits</b>	Not Present	0	
	Final Score	40	1 Sensitivity Level

#### **Characteristics / Requirements**

The reserve pit is planned in an area of cut on the east side of the location. Dimensions are 120' x 260' x 12' deep with two feet of freeboard. Kerr McGee agreed to line this pit with a 16 mil synthetic liner and a layer of felt sub-liner.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 16 Pit Underlayment Required? Y

#### **Other Observations / Comments**

Evaluator	Date / Time
David Hackford	10/12/2011

12/12/2011 Page 2

## Application for Permit to Drill Statement of Basis

12/12/2011 Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	<b>Surf Owner</b>	<b>CBM</b>
4626	43047519690000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONS	HORE, L.P.	<b>Surface Owner-APD</b>		
Well Name	NBU 1022-12P4BS		Unit	NATURAL B	UTTES
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	SESE 12 10S 22E S 1105	FSL 470 FE	L GPS Coord (UTM)	638317E 4424	1487N

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 2,160' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,060'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 12. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill 10/19/2011
APD Evaluator Date / Time

#### **Surface Statement of Basis**

The general area is in the southeast portion of the Natural Buttes Unit. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River is 3900'. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 48 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads. The existing access road will be re-routed for the final 250 feet.

Four wells will be directionally drilled from this location. They are the NBU 1022-12I4CS, NBU 1022-12P1BS, NBU 1022-12P4BS and the NBU 1022-12P4CS. The existing location has one well. This well is the NBU 1022-12P, and at this time the decision rather to PA or TA this well has not been made. The location is on a flat topped ridge that runs in a east-west direction. This ridge breaks off sharply into rugged secondary canyons on the southwest, northwest and west sides. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and sufficient for five wells, and is the best site for a location in the immediate area.

New construction will consist of approx. 50 feet on all sides of the existing pad, and an additional 50 feet on the east side for reserve pit and excess cut stockpile.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA and Ben Williams with DWR were invited by email to the pre-site evaluation. Both were present. Kerr McGee personnel were told to consult with SITLA for reclamation standards including seeding mixes to be used.

David Hackford 10/12/2011
Onsite Evaluator Date / Time

Conditions of Approval / Application for Permit to Drill

**Category** Condition

**RECEIVED:** December 12, 2011

# **Application for Permit to Drill Statement of Basis**

12/12/2011 Utah Division of Oil, Gas and Mining

Page 2

Pits A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the

reserve pit.

Pits The reserve pit should be located on the south side of the location.

**RECEIVED:** December 12, 2011

#### WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 9/13/2011 API NO. ASSIGNED: 43047519690000

WELL NAME: NBU 1022-12P4BS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6086

**CONTACT:** Gina Becker

PROPOSED LOCATION: SESE 12 100S 220E **Permit Tech Review:** 

> SURFACE: 1105 FSL 0470 FEL **Engineering Review:**

> BOTTOM: 0580 FSL 0494 FEL Geology Review:

**COUNTY: UINTAH** 

**LATITUDE: 39.95922** LONGITUDE: -109.38060 UTM SURF EASTINGS: 638317.00 NORTHINGS: 4424487.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: UT ST UO 01997-A ST PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 3 - State **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** 

✓ PLAT R649-2-3.

Unit: NATURAL BUTTES Bond: STATE/FEE - 22013542

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-14 Water Permit: 43-8496

**Effective Date:** 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting **Fee Surface Agreement** 

✓ Intent to Commingle ✓ R649-3-11. Directional Drill

**Commingling Approved** 

**Comments:** Presite Completed

Stipulations:

3 - Commingling - ddoucet 5 - Statement of Basis - bhill 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason 25 - Surface Casing - hmacdonald

API Well No: 43047519690000



## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

#### **Permit To Drill**

\*\*\*\*\*

**Well Name:** NBU 1022-12P4BS **API Well Number:** 43047519690000

Lease Number: UT ST UO 01997-A ST

**Surface Owner:** STATE **Approval Date:** 12/12/2011

#### **Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### **Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### **Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### **Conditions of Approval:**

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

API Well No: 43047519690000

#### **Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan contact Dustin Doucet
- Significant plug back of the well contact Dustin Doucet
- Plug and abandonment of the well contact Dustin Doucet

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well contact Carol Daniels OR
- submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at http://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to cementing or testing casing contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well contact Dan Jarvis

#### **Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 office
- Dustin Doucet 801-538-5281 office

801-733-0983 - after office hours

• Dan Jarvis 801-538-5338 - office

801-231-8956 - after office hours

#### **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas

#### FORM 9

STATE OF UTAH

Do not use this form for proposals to drill new drill horizontal late.  1. TYPE OF WELL  2. NAME OF OPERATOR:  Kerr-McGee Oil & Gas Ons	6. LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-A ST 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:  7. UNIT OF CA AGREEMENT NAME: UTU63047A  8. WELL NAME and NUMBER: Multiple Well Locations  9. API NUMBER:			
3. ADDRESS OF OPERATOR: P.O. Box 173779	Denver C	O 80217	PHONE NUMBER: (720) 929-6086	10. FIELD AND POOL, OR WILDCAT  Natural Buttes
4. LOCATION OF WELL	s Locations in T10S-R22E,			COUNTY: Uintah STATE: UTAH
11. CHECK APPR	OPRIATE BOXES TO INI	DICATE NATURE	OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		T	YPE OF ACTION	
NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will start:  4/23/2012  SUBSEQUENT REPORT (Submit Original Form Only)  Date of work completion:	ACIDIZE  ALTER CASING  CASING REPAIR  CHANGE TO PREVIOUS PLANS  CHANGE TUBING  CHANGE WELL NAME  CHANGE WELL STATUS  COMMINGLE PRODUCING FORM  CONVERT WELL TYPE	MATIONS RECLAMAT	TRUCTION CHANGE ABANDON	REPERFORATE CURRENT FORMATION  SIDETRACK TO REPAIR WELL  TEMPORARILY ABANDON  TUBING REPAIR  VENT OR FLARE  WATER DISPOSAL  WATER SHUT-OFF  OTHER: Lease Number  Correction
			•	r to UT ST UO 01197-A ST for
NAME (PLEASE PRINT) Gina T Be	cker Sair	TITI DAT	4/23/2012	y Analyst

(This space for State use only)

**RECEIVED** 

APR 2 4 2012

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			SL	SL	SL	SL	SL		FEDERAL
	ADI LIMI MA	NA/ELL NIAN/IC			TOWNSHIP			COVIERCE NO	FEDERAL
<u> </u>	API UWI NO					<del></del>		GOV LEASE NO	LEASE NO
			UT	12	10	22			UTU63047A
			UT	12	10	22			UTU63047A
			UT	12	10	22		UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12A4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12B1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12B1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12B4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12B4CS	UT	12	10	22	UINTAH		UTU63047A
		NBU 1022-12C1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
10	4304751981	NBU 1022-12C1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
11	4304751984	NBU 1022-12C4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
12	4304751985	NBU 1022-12C4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
13	4304751989	NBU 1022-12D1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
14	4304751987	NBU 1022-12D1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
15	4304751990	NBU 1022-12D4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
16	4304751992	NBU 1022-12D4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
17	4304751988	NBU 1022-12E1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
18	4304751993	NBU 1022-12E1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
19	4304751994	NBU 1022-12E4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
20	4304751996	NBU 1022-12F1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
21	4304751997	NBU 1022-12F1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
22	4304751995	NBU 1022-12F4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
23	4304751967	NBU 1022-12E4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
24	4304751964	NBU 1022-12F4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
25	4304751965	NBU 1022-12K1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
26	4304751966	NBU 1022-12K1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
27	4304751970	NBU 1022-12K4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
28	4304751971	NBU 1022-12K4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
29	4304751974	NBU 1022-12G1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
30	4304751963	NBU 1022-12G1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
31	4304751972	NBU 1022-12G4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
32	4304751977	NBU 1022-12G4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
33	4304751973	NBU 1022-12H1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12H1CS		12	10	22	UINTAH		UTU63047A
		NBU 1022-12H4BS		12	10	22	UINTAH		UTU63047A
		NBU 1022-12H4CS	UT	12	10	22	UINTAH		UTU63047A
		NBU 1022-1211BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12I1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12I4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
_		NBU 1022-12J1BS	UT	12	10	22	UINTAH		UTU63047A
		NBU 1022-12J1CS	UT	12	10	22	UINTAH		UTU63047A
		NBU 1022-12J4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12J4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12N1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
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_		NBU 1022-12N4CS	<b>-</b>	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12I4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
		NBU 1022-12P1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
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			SL	SL	SL	SL	COUNTY		FEDERAL
	API UWI NO	WELL NAME	STATE	SECTION	TOWNSHIP	RANGE	NAME	GOV LEASE NO	LEASE NO
50	4304751969	NBU 1022-12P4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
51	4304751947	NBU 1022-12P4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
52	4304751949	NBU 1022-1201BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
53	4304751950	NBU 1022-1201CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
54	4304751953	NBU 1022-1204BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
55	4304751954	NBU 1022-1204CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A

Sundry Number: 32388 API Well Number: 43047519690000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCE		FORM 9
	5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-		
SUNDF	RY NOTICES AND REPORTS (	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for pro- current bottom-hole depth, FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-12P4BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON		9. API NUMBER: 43047519690000	
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18t	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-	9. FIELD and POOL or WILDCAT: 5.NIATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE:			COUNTY: UINTAH
1105 FSL 0470 FEL QTR/QTR, SECTION, TOWNSI Qtr/Qtr: SESE Section: 1	<b>HIP, RANGE, MERIDIAN:</b> 2 Township: 10.0S Range: 22.0E Meridia	nn: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
✓ NOTICE OF INTENT	ACIDIZE	ALTER CASING	CASING REPAIR
Approximate date work will start: 12/12/2012	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN  OPERATOR CHANGE	FRACTURE TREAT  PLUG AND ABANDON	☐ NEW CONSTRUCTION ☐ PLUG BACK
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	✓ APD EXTENSION
Report Date:	WILDCAT WELL DETERMINATION	отнер	OTHER
40 DECCRIPE PROPOSED OF	COMPLETED OPERATIONS. Clearly show a	U nestinent detelle includion detec	denths welvers at
Kerr-McGee Oil & G an extension to this	Gas Onshore, L.P. (Kerr-McGe APD for the maximum time a with any questions and/or co	e) respectfully requests allowed. Please contact	Approved by the Utah Division of Oil, Gas and Mining
			Date: November 26, 2012
			By: Bally
NAME (PLEASE PRINT) Luke Urban	<b>PHONE NUMBE</b> 720 929-6501	R TITLE Regulatory Specialist	
SIGNATURE N/A		DATE 11/26/2012	
13/ <i>E</i> 3		I I/4U/4U I4	

Sundry Number: 32388 API Well Number: 43047519690000



#### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

#### Request for Permit Extension Validation Well Number 43047519690000

API: 43047519690000 Well Name: NBU 1022-12P4BS

Location: 1105 FSL 0470 FEL QTR SESE SEC 12 TWNP 100S RNG 220E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 12/12/2011

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

• If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
• Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes No
<ul> <li>Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?</li> <li>Yes</li> <li>No</li> </ul>
• Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ( Yes ( No
• Has the approved source of water for drilling changed? 🔘 Yes 🌘 No
• Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?   Yes  No
• Is bonding still in place, which covers this proposed well?   Yes   No
nature: Luke Urban Date: 11/26/2012

Sig

Title: Regulatory Specialist Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Sundry Number: 35734 API Well Number: 43047519690000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MII		5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	oposals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-12P4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047519690000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 7 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1105 FSL 0470 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HP, RANGE, MERIDIAN: 2 Township: 10.0S Range: 22.0E Merid	lian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start.	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
3/16/2013	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	LI TEMPORARY ABANDON
DRILLING REPORT	L TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
THE WELL SPUD ON RIG. DRILLED 2 SCHEDULE 10 CON ANTICIPATED SURF	COMPLETED OPERATIONS. Clearly show N MARCH 16, 2013 AT 09:30. Oin CONDUCTOR HOLE TO DUCTOR PIPE. CEMENT WIT FACE RIG SPUD DATE ON Ap MENT April 26, 2013 AT 08:0	MIRU TRIPLE A BUCKET 40ft. RAN 14in 36.7lb H 28 SACKS READY MIX. oril 25, 2013 AND CASING	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY March 21, 2013
NAME (PLEASE PRINT) Luke Urban	PHONE NUMB 720 929-6501	BER TITLE Regulatory Specialist	
SIGNATURE	720 929-0001	DATE	
N/A		3/20/2013	

Sundry Number: 36573 API Well Number: 43047519690000

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MINI		5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-
SUNDR	RY NOTICES AND REPORTS O	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly d reenter plugged wells, or to drill horizon n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-12P4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047519690000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-0	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1105 FSL 0470 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 2 Township: 10.0S Range: 22.0E Meridia	n: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
The operator re Specifically, the o loop drilling option casing change in casing to 4.5 inch	CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS  DEEPEN  OPERATOR CHANGE  PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION  TUBING REPAIR  WATER SHUTOFF  WILDCAT WELL DETERMINATION  COMPLETED OPERATIONS. Clearly show all quests approval for changes perator requests approval for and a production casing changes as witch from 4.5 inched HCP 110 11.6 LB Ultra DQX/iously approved drilling plands see closed loop attachments.	in the drilling plan. a FIT wavier, closed range. The production I-80 11.6 BTC/LTC LTC casing. All other will not change. Please	CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  APD EXTENSION  OTHER:  Depths, volumes, etc.  Approved by the  Utah Division of  Oil, Gas and Mining  Date: April 08, 2013  By:
NAME (PLEASE PRINT)	PHONE NUMBE	R TITLE	
Teena Paulo	720 929-6236	Staff Regulatory Specialist	
SIGNATURE N/A		<b>DATE</b> 4/8/2013	

Sundry Number: 36573 API Well Number: 43047519690000

#### Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

## STATE OF UTAH

#### DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

### **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

zip 80217 state CO

Phone Number: (720) 929-6857

#### Well 1

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304751969	NBU 1022-12P4BS	-	SESE	12	108	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te	•	ity Assignment iffective Date
<u>₩</u>	99999	2900	3	3/16/201	3	317	28/13

Comments: MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON March 16, 2013 AT 09:30 HRS.

#### Well 2

API Number	Well I	Name	QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	S	pud Da	 te 		tity Assignment Effective Date
Comments:						<u> </u>	

#### Well 3

API Number	Well I	Name	QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	S	l Spud Da	te		ity Assignment ffective Date
Comments:							

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- **B** Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a REDEIVED
- E Other (Explain in 'comments' section)

MAR 2 3 2013

Lu	кe	Ur	baı	1
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Name (Please Print)

Signature

Title

Sr. Regulatory Specialist

3/20/2013

Date

Sundry Number: 37456 API Well Number: 43047519690000

	STATE OF UTAH				FORM 9
,	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI		3	5.LEASE DESIGNATION AND SERIAL UT ST UO 01197-	L NUMBER:
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE	NAME:			
	posals to drill new wells, significantly reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES	
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 1022-12P4BS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			<b>9. API NUMBER:</b> 43047519690000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	n Street, Suite 600, Denver, CO, 802		NE NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NAT⊞RAL BUTTES	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1105 FSL 0470 FEL				COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSH	<b>HP, RANGE, MERIDIAN:</b> 2 Township: 10.0S Range: 22.0E Merio	dian: S	;	STATE: UTAH	
11. CHEC	K APPROPRIATE BOXES TO INDICA	ATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DATA	
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE		ALTER CASING	CASING REPAIR	
NOTICE OF INTENT	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE WELL NAME	
Approximate date work will start:	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ F	RACTURE TREAT	NEW CONSTRUCTION	
Date of Work Completion.	OPERATOR CHANGE	☐ F	PLUG AND ABANDON	PLUG BACK	
SPUD REPORT	PRODUCTION START OR RESUME	□ F	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATI	ION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON	
	TUBING REPAIR		/ENT OR FLARE	WATER DISPOSAL	
✓ DRILLING REPORT Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION	APD EXTENSION	
5/3/2013					7
	WILDCAT WELL DETERMINATION		OTHER	OTHER:	
	COMPLETED OPERATIONS. Clearly shown or the month of April 2013.			Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD O	NLY
NAME (DI EASE DDINT)	PHONE NUM	RED	TITLE		
NAME (PLEASE PRINT) Jaime Scharnowske	720 929-6304	DEK	Regulartory Analyst		
SIGNATURE N/A			<b>DATE</b> 5/3/2013		

Sundry Number: 38580 API Well Number: 43047519690000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOUF DIVISION OF OIL, GAS, AND M		5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	posals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-12P4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047519690000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 802	<b>PHONE NUMBER:</b> 17 3779 720 929-	9. FIELD and POOL or WILDCAT: 65NIATHERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1105 FSL 0470 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 2 Township: 10.0S Range: 22.0E Meri	dian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
6/4/2013		SITA STATUS EXTENSION	
	WILDCAT WELL DETERMINATION	□ OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly show Drilled to 2,330 ft. in May	- ·	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY June 10, 2013
NAME (PLEASE PRINT) Teena Paulo	PHONE NUN 720 929-6236	IBER TITLE Staff Regulatory Specialist	
SIGNATURE		DATE	
N/A		6/4/2013	

## State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54
Submitted By STUART NEILSON Phone Number 435-790-2921
Well Name/Number NBU 1022-12P4BS
Qtr/Qtr SE/SE Section 12 Township 10S Range 22E
Lease Serial Number UT ST UO 01997-A ST
API Number 4304751969

Cas	ing – Time casing run starts, not cementing time	S.
	Production Casing Other	
	Date/Time AM [ PM [	
BOI	Initial BOPE test at surface casing point Other	
	Date/Time <u>6/25/13</u> <u>8</u> AM ☐ PM ☐	
_	Move ation To: <u>NBU 1022-12P PAD</u>	RECEIVED JUN 2 5 2018 DIV. OF OIL, GAS & MINING
	Date/Time AM [] PM []	and a same
Ren	narks WELL 3 OF 4 ON THE NBU 1022-12P PAD	

Sundry Number: 39508 API Well Number: 43047519690000

	STATE OF UTAH			FORM 9
ı	DEPARTMENT OF NATURAL RESOL DIVISION OF OIL, GAS, AND I		ì	5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES	
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 1022-12P4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.			<b>9. API NUMBER:</b> 43047519690000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 80		<b>NE NUMBER:</b> 9 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1105 FSL 0470 FEL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>HIP, RANGE, MERIDIAN:</b> 2 Township: 10.0S Range: 22.0E Me	eridian: S		STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDI	CATE NA	ATURE OF NOTICE, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
	CHANGE TO PREVIOUS PLANS CHANGE WELL STATUS DEEPEN OPERATOR CHANGE PRODUCTION START OR RESUME REPERFORATE CURRENT FORMATION TUBING REPAIR WATER SHUTOFF WILDCAT WELL DETERMINATION  COMPLETED OPERATIONS. Clearly sh Drilled to 8,455 ft. in June	C C C C C C C C C C C C C C C C C C C		CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  APD EXTENSION  OTHER:  Pepths, volumes, etc.  Accepted by the  Utah Division of  Oil, Gas and Mining  FOR RECORD ONLY  July 10, 2013
NAME (PLEASE PRINT)	PHONE NU	IMRER	TITLE	
Teena Paulo	720 929-6236	, 410EK	Staff Regulatory Specialist	
<b>SIGNATURE</b> N/A			<b>DATE</b> 7/1/2013	

RECEIVED: Jul. 01, 2013

## State of Utah - Notification Form

Operator <u>Anadarko Petroleum</u> Rig Name/# <u>PIONEER 54</u>
Submitted By <u>STUART NEILSON</u> Phone Number <u>435-790-2921</u>
Well Name/Number <u>NBU 1022-12P4BS</u>
Qtr/Qtr <u>SE/SE</u> Section <u>12</u> Township <u>10S</u> Range <u>22E</u>
Lease Serial Number <u>UT ST UO 01997-A ST</u>
API Number <u>4304751969</u>

<u>Casing</u> – Time casing run starts, not cementing times	<b>3.</b>
<ul><li>☐ Production Casing</li><li>☐ Other</li></ul>	
Date/Time 6/28/13 8 AM PM	
BOPE Initial BOPE test at surface casing point Other  Date/Time AM  PM  PM    Rig Move Location To: NBU 1022-12P PAD	RECEIVED JUN 27 2013 DIV. OF OIL, GAS & MINING
Location To. NOO 1022-12F FAD	
Date/Time AM [] PM []	
Remarks WELL 3 OF 4 ON THE NBU 1022-12P PAD	

#### State of Utah - Notification Form

Operator <u>Anadarko Petroleum</u> Rig Name/# <u>PIONEER 54</u>
Submitted By <u>STUART NEILSON</u> Phone Number <u>435-790-2921</u>
Well Name/Number <u>NBU 1022-12P4BS</u>
Qtr/Qtr <u>SE/SE</u> Section <u>12</u> Township <u>10S</u> Range 22E
Lease Serial Number <u>UT ST UO 01997-A ST</u>
API Number <u>4304751969</u>

<u>Casing</u> – Time casing run starts, not cementing times	<b>).</b>		
<ul><li>☐ Production Casing</li><li>☐ Other</li></ul>			
Date/Time <u>6/28/13</u> <u>8</u> AM PM			
BOPE Initial BOPE test at surface casing point Other  Date/Time AM  PM  PM	RECEIVED		
Rig Move Location To: NBU 1022-12P PAD  Date/Time AM  PM	JUN 27 2013 DIV. OF OIL, GAS & MINING		
Remarks WELL 3 OF 4 ON THE NBU 1022-12P PAD			

Sundry Number: 40870 API Well Number: 43047519690000

STATE OF UTAH			F	ORM 9	
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		5.LEASE DESIGNATION AND SERIAL NU UT ST UO 01197-	MBER:		
SUNDRY NOTICES AND REPORTS ON WELLS		6. IF INDIAN, ALLOTTEE OR TRIBE NAM	ΛE:		
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 1022-12P4BS			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.			9. API NUMBER: 43047519690000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  720 929-6		9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1105 FSL 0470 FEL		COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  Qtr/Qtr: SESE Section: 12 Township: 10.0S Range: 22.0E Meridian: S		STATE: UTAH			
11. CHECK	K APPROPRIATE BOXES TO INDIC	ATE NA	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA	
TYPE OF SUBMISSION	TYPE OF ACTION				
	ACIDIZE	Па	LTER CASING	CASING REPAIR	
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	С	HANGE TUBING	CHANGE WELL NAME	
	CHANGE WELL STATUS	☐ c	OMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ FF	RACTURE TREAT	New construction	
	OPERATOR CHANGE	☐ PI	LUG AND ABANDON	PLUG BACK	
SPUD REPORT	PRODUCTION START OR RESUME	□ RI	ECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION	
Date of Spud:	REPERFORATE CURRENT FORMATION		DETRACK TO REPAIR WELL	TEMPORARY ABANDON	
	TUBING REPAIR		ENT OR FLARE	WATER DISPOSAL	
✓ DRILLING REPORT	WATER SHUTOFF		TA STATUS EXTENSION	APD EXTENSION	
Report Date: 8/5/2013		si	TA STATUS EXTENSION		
	WILDCAT WELL DETERMINATION	o	THER	OTHER:	
	COMPLETED OPERATIONS. Clearly sho			Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONI August 07, 2013	Y
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUN</b> 720 929-6236	MBER	TITLE Staff Regulatory Specialist		
SIGNATURE N/A			<b>DATE</b> 8/5/2013		

Sundry Number: 41613 API Well Number: 43047519690000

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MINI		5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-
SUNDR	RY NOTICES AND REPORTS C	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	oposals to drill new wells, significantly d reenter plugged wells, or to drill horizon n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-12P4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		<b>9. API NUMBER:</b> 43047519690000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80217	PHONE NUMBER: 3779 720 929-0	9. FIELD and POOL or WILDCAT: 5.NIATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE:			COUNTY: UINTAH
1105 FSL 0470 FEL QTR/QTR, SECTION, TOWNSH Qtr/Qtr: SESE Section: 1:	<b>HIP, RANGE, MERIDIAN:</b> 2 Township: 10.0S Range: 22.0E Meridia	n: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPOR	₹T, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE [	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	✓ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
8/19/2013	WILDCAT WELL DETERMINATION	OTHER	OTHER:
THE SUBJECT WEL	COMPLETED OPERATIONS. Clearly show al L WAS PLACED ON PRODUCT WELL HISTORY WILL BE SUBM COMPELTION REPORT.	TON ON 8/19/2013. THE	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY September 18, 2013
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUMBE</b> 720 929-6236	R TITLE Staff Regulatory Specialist	
SIGNATURE N/A		<b>DATE</b> 8/21/2013	

						OF UTA										REPOR		FOR	M 8
						IATURAL										changes IGNATION		RIAL NUMB	ER:
		1	פועוכ	ION O	F OIL	., GAS A	INL	IVIIINI	NG							O 0119			
WELL	COM	IPLE1	TION	I OR F	REC	OMPLE	ETI	ON F	REP	ORT	ΑN	ND LOG	ì	6. IF	INDIAN, A	LLOTTEE	OR TRIBI	ENAME	
1a. TYPE OF WELL:	:		IL r	- G	AS F	71	,							7. UN	IIT or CA	AGREEME	NT NAME		
		W	ELL [		ELL X	DR'	Y		O	THER				U'.	ΓU630	47A			
b. TYPE OF WORK		n	FFP. r	R	F. [	Ti DIE	F.		_							E and NUM			
	HORIZ. [		EEP- [		NTRY [	_ RE	ŠVR.			THER					BU 102	22-12P	IBS		
2. NAME OF OPERA KERR-MC		OII AN	JD C	AS ON	SHUI	OF I D									-047-5				
3. ADDRESS OF OP			W G	AS OIV	31101					PHO	ONE	NUMBER:		17,150		POOL, OR	WILDCAT		
P.O. Box 173779		CIT	Y Denv	er		STATE Co		ZIP 82	017	7	720-9	929-6000		Na	tural	Buttes			
4. LOCATION OF W		200200000000000000000000000000000000000	nas reason		wasteress.	nomena e respensa									TR/QTR,		TOWNSH	IP, RANGE,	
AT SURFACE:	SESE	1105 F	SL 47	0 FEL										SE			IS 221	E SLB	
AT TOP PRODUC	ING INTE	RVAL REF	PORTED	BELOW:	SES	E 587 FS	L s	509 FE	L					SE.	3 <b>.</b>		15 22		
AT TOTAL DEPTI	H: SES	SE 568	FSL 4	484 FEI	Ĺ									12. C	OUNTY		13	. STATE	
11 DATE ODUDDE		45 0075	T D D	EAGUED.	40 DA	TE COMPLET	<del></del>					*		L		TAH	DE BKB I		UTAH
3/16/2013	D:		1. b. ki 27/20			те сомрьет 9/2013	ED:		ABAND	ONED	1	READY TO PE	RODUCE	V		5281	100	KB	
18. TOTAL DEPTH:	MD	8455				D.: MD 839	)7		20. IF	MULTIPLE	E CC	OMPLETIONS,	HOW M	ANY? *				VENEZUS EN PRESENTA	
			MARKETON Distriction			NOTIFIED A									PL	UG SET:	TVD		
22. TYPE ELECTRIC	TVD	8405	A TOTAL PROPERTY OF	LLOGS BI	IN (Sub	TVD 835	115/03/4			23									
CMPCT TR					•			CCL/T	ЕМР		WEI	LL CORED?		иф	/ Y	ES	(Sut	mit analysi	is)
CMICITA	I L CIV	ibo Qi	X LIX-	CI D/CL	711-11 Y	C-CBL/C	114	CCLIT	121711	WAS	DST	RUN?		Nd	7 Y	ES	(Sub	mit report)	
										DIRE	CTIC	ONAL SURVEY	?	ИФ	) Y	ES	(Sub	mit copy)	
24. CASING AND LI	NER REC	ORD (Rep	ort all s	trings set in	n well)								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
HOLE SIZE	SIZE/	GRADE	WEIG	HT (#/ft.)	TOF	P (MD) B	ОТТ	OM (MD)	STAG	E CEMENT	ER	CEMENT TYP	ACCOUNT NAME OF THE OWNER, THE OW	SLU	1 100 Hills	CEMEN	T TOP *	AMOUNT	r PULLED
		CITY		-				10		DEPTH		NO. OF SAC	NS I	OLUM	E (BBL)				
20 11	14	STL J-55		6.7 28		0		40 315			_	28 650					0	1	
7.875	8.63 4.5	J-55		1.6		19		144			-	1413					50	-	
7.075	7.5	1-00	1	1.0			-0-				$\neg$	1410						<b>†</b>	
25. TUBING RECO	RD																		
SIZE	DEP	TH SET (M	D) P/	ACKER SET	(MD)	SIZE		DEPTH	SET (	ID) PAG	CKE	R SET (MD)		SIZE	II.	DEPTH SE	T (MD)	PACKER	SET (MD)
2.375		7803																	
26. PRODUCING IN	ITERVAL	s								27. PE <b>RF</b>	ORA	ATION RECOR	0						
FORMATION N	IAME	ТОР	(MD)	BOTTON	(MD)	TOP (TVD)	E	воттом	(TVD)	INTERVA	AL (T	op/Bot - MD)	SIZE	No	. HOLES		PERFORA	TION STAT	rus
(A) WASAT	СН	55	49	618	80					5,549		6,180	0.30	5	49	Open	Z	Squeezed	
(B) MESAVE	ERDE	64	58	831	3				<	6,458		8,313	0.30	5	156	Open	Z	Squeezed	
(C)																Open		Squeezed	
(D)		1						W								Open		Squeezed	
28. ACID, FRACTU		ATMENT, C	EMENT	SQUEEZE	ETC.					MOUNT A	ND 3	TYPE OF MATE	EDIAL						
8 4 5 4 6 5 4	NERVAL		DIIN	ID 0400	DDI	C CL ICL	11	20.6.						CAR	JD.				
5549-8313					BBL	2 STICK	П	20 & .	223,1	41 LBS	3 31	0/50 OTT.	A W A	SAI	\D				
			9 51	AGES															
							-												
29. ENCLOSED AT	TACHME	NTS:															30. WEL	L STATUS:	
ELECTRICAL/	MECHAN	IICAL LOG	S				GE	OLOGICA	AL REP	ORT	] D	ST REPORT	1	DIREC	TIONAL	SURVEY	77	ODY	INIC
SUNDRY NOT	ICE FOR	PLUGGING	G AND C	EMENT VE	RIFICA	пои 🔲	CC	RE ANAL	YSIS		] 0	THER:					PR	ODUC	ш <b>у</b> G
										,							<u></u>		<b>R</b> ichard Annual

(CONTINUED ON BACK)

21	INITIAL	DECIDION

## INTERVAL A (As shown in Item #26)

DATE FIRST P	RODUCED:	TEST DATE:		THOURS TESTE	D:	TEST PROD	UCTION	OIL - BBL:	IGAS - MCF:	WATER - BBL:	IPROD, METHOD:
8/19	0/2013		/2013		24	RATES: -		6	1726	0	Flowing
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR		OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS
20/64	1573	2302				RATES: -	<b>→</b>	6	1726	0	Producing
				INTE	RVAL B (As show	vn in Item #26	6)				
DATE FIRST PI	RODUCED:	TEST DATE:		HOURS TESTE	D:	TEST PRODI		OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: –		OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS
				INTE	RVAL C (As show	vn in Item #26	6)				
DATE FIRST PI	RODUCED:	TEST DATE:		HOURS TESTE	D:	TEST PROD RATES: -	DN -C ROVOROSIA	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: -		OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS
				INTE	RVAL D (As show	vn in Item #26	6)				
DATE FIRST PI	RODUCED:	TEST DATE:		HOURS TESTE	D;	TEST PROD	Dell Sec- Scionalacture	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: -		OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS
32. DISPOSITI	ON OF GAS (Solo	d, Used for Fuel, \	/ented, Etc.)								
COLD											

33. SUMMARY OF POROUS ZONES (Include Aquifers): Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
,	,	, w=1		GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1027 1396 1580 4130 6191

35. ADDITIONAL REMARKS (Include plugging procedures)

The first 210 ft. of the surface hole was drilled with a 12 1/4 in. bit. The remainder of surface hole was drilled with an 11in. bit. DQX csg was run from surface to 5004 ft.; LTC csg was run from 5004 ft. to 8444 ft. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the foregoing and attached information is complete and correct as determine	ed from all available records.
NAME (PLEASE PRINT) Teena Paulo	TITLE Staff Regulatory Specialist
Tall).	9-10-3013
SIGNATURE	DATE

This report must be submitted within 30 days of

- · completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratgraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top - Show how reported top(s) of cement were determined (cirulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to:

Utah Division of Oil, Gas and Mining

Phone: 801-538-5340

1594 West North Temple, Suite 1210 Box 145801

Fax:

801-359-3940

Salt Lake City, Utah 84114-5801

						KIES RE	EGION ry Report	
Well: NBU 1022	2-12P4BS GREEN						Spud Date: 5/	17/2013
Project: UTAH-L			Site: NBL	J 1022-12	P PAD			Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLIN	G		Start Date	e: 5/1/201	3	7		End Date: 6/29/2013
Active Datum: R Level)	RKB @5,281.00usft (a	bove Mean Se	ea	UWI: SE	E/SE/0/10	)/S/22/E/1:	2/0/0/26/PM/S/1	105/E/0/470/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/17/2013	18:00 - 22:00	4.00	MIRU	01	В	Р		SKID RIG 20' TO NBU 1022-12P4BS, RIG UP SET MATTING BOARD, SET RIG IN PLACE, CATWALK, PIPE RACKS, PLACE BOTTOME HOLE ASSEMBLY
	22:00 - 22:30	0.50	MIRU	01	С	Р		PRE SPUD JOB SAFETY MEETING REVEW DIRECTIONAL PLANS AND PLATS AND VERIFY LAT/LONGS AND WELL ORDER VERIFY DIRECTIONAL DRILLERS PLAN IS THE MOST RECENT AND APPROVED VERSION REFERENCE WELLBORE DIAGRAMS FOR EXACT CASING DESIGN AND GENERAL OVERVEW OF WELLBORE, PRIOR TO SPUD. FINISH PICKING UP BHA. PICK UP NOV 1.83 DEGREE BENT MOTOR (RUN #4 )17 REV/GAL SN (397214-5). PICK UP 12.25 REED DRILL BIT RUN 14 SN (A172023)
	22:30 - 0:00	1.50	DRLSUR	02	В	P	59	SPUD @ 05/17/2013 22:30.  DRILL 12.25" HOLE 44'-210' (166', 110'/PER HOUR) WEIGHT ON BIT 5-15 K.  STROKES PER MINUTE 120 GALLONS PER MINUTE 491.  PRESSURE ON/OFF (BOTTOM) 800/600.  ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138.  UP/DOWN/ ROTATE 20/20/20 K. DRAG 0 K.  CIRCULATE CLOSED LOOP SYSTEM WITH 8.3# WATER.  RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS.  DRILL DOWN TO 210' WITH 6" DRILL COLLARS.
5/18/2013	0:00 - 2:00	2.00	DRLSUR	06	Α	Р	225	PRE JOB SAFETY MEETING, CIRC 15 MINUTES AND, TRIP OUT TO CHANGE ASSEMBLY. LAY DOWN 6" DRILL COLLARS, BREAK 12 1/4" BIT. MAKE UP REED 11" BIT (8TH RUN) (SN A172025) PICK UP 8" DIRECTIONAL ASSEMBLY. INSTALL EM TOOL, TRIP IN HOLE.
	2:00 - 4:00	2.00	DRLSUR	08	Α	Z	225	***FAILURE: RIG EQUIPMENT - (HYDRAULIC CODER) REPLACE HYDRAULIC CODER.

## API Well Number: 43047519690000 US ROCKIES REGION **Operation Summary Report** Well: NBU 1022-12P4BS GREEN Spud Date: 5/17/2013 Project: UTAH-UINTAH Site: NBU 1022-12P PAD Rig Name No: PROPETRO 12/12, PIONEER 54/54 Event: DRILLING End Date: 6/29/2013 Start Date: 5/1/2013 UWI: SE/SE/0/10/S/22/E/12/0/0/26/PM/S/1105/E/0/470/0/0 Active Datum: RKB @5,281.00usft (above Mean Sea Phase Code PAL Date Time Duration MD From Operation Sub Start-End (hr) Code (usft) 4:00 - 12:00 8.00 DRLSUR 02 Ρ 225 В DRILL 11". SURFACE HOLE 210'-1320', (1110', 138/PER HOUR). WEIGHT ON BIT 18-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE PRESSURE ON/OFF(BOTTOM) 1200/1000. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 60/40/50 K. DRAG 10 K. SLIDING 15' PER 90'OF ROTATION GETTING 1.5 **DEGREE BUILD RATES** CURRENTLY 0.8' NORTH 0' RIGHT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES. 12:00 - 18:00 6.00 DRLSUR 02 В 1335 DRILL 11". SURFACE HOLE 1320'-1860', (540', 90'/PER HOUR). WEIGHT ON BIT 18-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE PRESSURE ON/OFF(BOTTOM) 1400/1200. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 75/55/65 K. DRAG 10 K. SLIDING 15' PER 90'OF ROTATION GETTING 1.5 **DEGREE BUILD RATES** CURRENTLY 5' NORTH 0.15' RIGHT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES. 18:00 - 0:00 6.00 DRLSUR DRILL 11". SURFACE HOLE 1860'-2330', (470', 78'/PER HOUR) TD@ 05/18/2013 23:59 WEIGHT ON BIT 18-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE PRESSURE ON/OFF(BOTTOM) 1450/1200. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 85/65/75 K. DRAG 10 K. SLIDING 15' PER 90'OF ROTATION GETTING 1.5 DEGREE BUILD RATES CURRENTLY 5' NORTH 0.15' RIGHT OF THE LINE CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER RUNNING VOLUME THROUGH 1 CENTRAFUGE DEWATERING AND. RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES. 0:00 - 2:00 5/19/2013 2.00 DRLSUR CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS, 6-400 BBL UPRIGHTS EMPTY, MUD TANKS FULL.

## API Well Number: 43047519690000 US ROCKIES REGION **Operation Summary Report** Well: NBU 1022-12P4BS GREEN Spud Date: 5/17/2013 Project: UTAH-UINTAH Site: NBU 1022-12P PAD Rig Name No: PROPETRO 12/12, PIONEER 54/54 Event: DRILLING End Date: 6/29/2013 Start Date: 5/1/2013 UWI: SE/SE/0/10/S/22/E/12/0/0/26/PM/S/1105/E/0/470/0/0 Active Datum: RKB @5,281.00usft (above Mean Sea PAL Date Phase Code Time Duration MD From Operation Sub Start-End (hr) Code (usft) 2:00 - 4:00 2.00 **CSGSUR** 06 Р D TRIP OUT OF HOLE. LAY DOWN DRILL STRING, 4:00 - 8:00 4.00 **CSGSUR** 08 Α Z \*\*\* FAILURE: RIG EQUIPMENT - (HYDRAULIC HOSE) CURRENTLY TD @2330' WAIT FOR NEW HYDRAULIC HOSE AND REPLACE IT. 8:00 - 10:00 2.00 **CSGSUR** Р 06 D TRIP OUT OF HOLE, LAY DOWN DRILL STRING, BOTTOM HOLE ASSEMBLY, DIRECTIONAL TOOLS, MOTOR AND, BIT. CLEAR TOOL AREA. 10:00 - 11:00 1.00 **CSGSUR** 06 D Ρ PRE JOB SAFETY MEETING, MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIGUP TO RUN SURFACE CASING. CLEAR UNRELATED TOOLS. 11:00 - 13:00 2.00 **CSGSUR** 12 C Р RUN 52 JOINTS OF 8-5/8". 28# J-55 LTC CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY OTHER JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN A TOTAL OF 52 JOINTS. RUN CASING TO BOTTOM WITH NO PROBLEMS. SET FLOAT SHOE @ 2300.25' KB. SET TOP OF BAFFLE PLATE @ 2254.65' KB. 13:00 - 14:30 1.50 **CSGSUR** Ε Р 12 PRE JOB SAFETY MEETING, RELEASE RIG @ 05/19/2013 14:30 RAN 200' OF 1". PIPE DOWN BACK-SIDE OF CASING. PRESSURE TEST LINES TO 2000 PSI. PUMP 145 BBLS OF WATER AHEAD. MIX AND PUMP 20 BBLS OF 8.5# GEL WATER AHEAD. MIX AND PUMP (300 sx) 61.4 BBLS OF 15.8.8# 1.15 YIELD. DROP PLUG ON FLY, DISPLACE WITH 139 BBLS OF H2O, NO RETURNS THROUGH OUT JOB, FINAL LIFT OF 400 PSI AT 3 BBL/MINUTE. BUMP THE PLUG WITH 900 PSI, HELD 900 PSI FOR 5 MINUTES. TESTED FLOAT AND FLOAT HELD. SHUT DOWN AND WASH UP. 14:30 - 14:30 0.00 **CSGSUR** Ε Р 12 PUMP CEMENT DOWN ONE INCH PIPE WITH 150 sx (30.7 bbls.)SAME CEMENT NO CEMENT RETURNS TO SURFACE. SHUT DOWN AND WASH UP. WAIT 1.5 HOURS ON CEMENT, CEMENT DOWN BACKSIDE W/ 200 sx (41 bbls.) SAME CEMENT, 3 BBLS CEMENT RETURNS TO SURFACE. RIG DOWN CEMENTERS. (CEMENT JOB FINISHED @ 05/19/2012 16:00) 6/25/2013 21:00 - 22:00 Р 1.00 MIRU3 C 2345 01 SKID 20' TO THE NBU 1022-12P4BS 22:00 - 23:00 1.00 **PRPSPD** 14 Α Ρ 2345 R/U,N/U BOPE, INSTALL NEW KELLYHOSE

### API Well Number: 43047519690000 US ROCKIES REGION **Operation Summary Report** Well: NBU 1022-12P4BS GREEN Spud Date: 5/17/2013 Project: UTAH-UINTAH Site: NBU 1022-12P PAD Rig Name No: PROPETRO 12/12, PIONEER 54/54 Event: DRILLING Start Date: 5/1/2013 End Date: 6/29/2013 UWI: SE/SE/0/10/S/22/E/12/0/0/26/PM/S/1105/E/0/470/0/0 Active Datum: RKB @5,281.00usft (above Mean Sea Date PAL Phase Code Time Duration Sub MD From Operation Start-End (hr) Code (usft) 23:00 - 0:00 1.00 **PRPSPD** 15 Ρ 2345 Α HELD SAFETY MEETING WITH RIG CREW & B & C TESTER, R/U & TEST BOPE, TEST PIPE RAMS, BLIND RAMS, INNER-OUTER BOP VALVES, CHOKE VALVES, FLOOR VALVES FOR 5 MIN 250 LOW,10 MIN 5000 HIGH, ANN 5 MIN 250- 10 MIN 2500, SURFACE CASING 1500 FOR 30 MIN'S 0:00 6/26/2013 - 3:00 3.00 **PRPSPD** 2345 HELD SAFETY MEETING WITH RIG CREW & B & C 15 Α TESTER, R/U & TEST BOPE, TEST PIPE RAMS, BLIND RAMS, INNER-OUTER BOP VALVES, CHOKE VALVES, FLOOR VALVES FOR 5 MIN 250 LOW,10 MIN 5000 HIGH, ANN 5 MIN 250- 10 MIN 2500, SURFACE CASING 1500 FOR 30 MIN'S 3:00 - 3:30 0.50 PRPSPD Ρ 2345 14 В INSTALL WEAR BUSHING, TIGHTEN TURN BUCKLES, PRE-SPUD INSPECTION 3:30 - 6:00 2.50 2345 PRPSPD 06 Α Р P/U & SCRIBE DIR TOOLS, TRIP IN TO TOP OF **CEMENT @ 2150** 6:00 - 7:00 1.00 PRPSPD 2345 09 Α **CUT & SLIP DRILL LINE** 7:00 - 8:00 1.00 DRLPRC 02 F 2345 DRILL CEMENT, F/E & OPEN HOLE TO 2345, BAFFLE @ 2269, SHOE @ 2313' 8:00 - 9:00 1.00 DRLPRC 02 В Р 2345 CLOSED LOOP SYSTEM DRILL F/ 2345 TO 2545', 200' @ 200' PH WOB / 20-24 RPM TOP DRIVE 55-60, MM 135 (2 PUMPS) - SPM 200 GPM 586 MW 8.5 PPG VIS 31 TRQ ON/OFF = 9/6 K PSI ON /OFF 1800/1400, DIFF 300-500 PU/SO/RT = 100-80-90 K SLIDE = 18' ROT = 182' NOV / 2-DEWATERING 97' N & 8' W OF TARGET CENTER DRILL FLARE, 0 CONN FLARE 0 9:00 - 9:30 0.50 DRLPRC 2545 SERVICE RIG 9:30 - 12:00 Р 2.50 DRLPRC 02 В 2545 CLOSED LOOP SYSTEM DRILL F/ 2545 TO 3264', 719' @ 287.6' PH WOB / 20-24 RPM TOP DRIVE 55-60, MM 135 (2 PUMPS) - SPM 200 GPM 586 MW 8.5 PPG VIS 31 TRQ ON/OFF = 9/6 K PSI ON /OFF 2000/1500, DIFF 300-500 PU/SO/RT = 110-90-100 K SLIDE = 28 ROT = 691 NOV / 2-DEWATERING 42' N & 13' W OF TARGET CENTER DRILL FLARE, 0 CONN FLARE 0

API We	ell Number	<del>· 4304</del>	<del>75196</del> 9			KIES RE	EGION	
				Opera	tion S	Summa	ry Report	
Well: NBU 1022	2-12P4BS GREEN						Spud Date: 5/1	7/2013
Project: UTAH-	HATMIL		Site: NBU	J 1022-12	P PAD			Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLIN	G		Start Dat	e: 5/1/201	3			End Date: 6/29/2013
Active Datum: I Level)	RKB @5,281.00usft (al	bove Mean S	ea	UWI: SE	/SE/0/10	)/S/22/E/1	2/0/0/26/PM/S/11	05/E/0/470/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:00 - 20:00	8.00	DRLPRV	02	В	P	3264	CLOSED LOOP SYSTEM  DRILL F/ 3264 TO 5245', 1981' @ 247.6'  WOB / 20-24  RPM TOP DRIVE 55-60, MM 135  (2 PUMPS) - SPM 200 GPM 586  MW 8.5 PPG VIS 31  TRQ ON/OFF = 10/8 K  PSI ON /OFF 2000/1500 , DIFF 300-600, 300-500  PU/SO/RT = 130-110-120 K  SLIDE = 36  ROT = 1945  NOV / 2-DEWATERING  14' N & 15' W OF TARGET CENTER  DRILL FLARE, 0 CONN FLARE 0
	20:00 - 0:00	4.00	DRLPRV	02	В	P		CLOSED LOOP SYSTEM DRILL F/ 5245' TO 5950', 705' @ 176.2' PH WOB / 20-24 RPM TOP DRIVE 55-60, MM 135 (2 PUMPS) - SPM 200 GPM 586 MW 8.8 PPG VIS 31 TRQ ON/OFF = 11/9 K PSI ON /OFF 1800/1400 , DIFF 300-600, 300-500 PU/SO/RT = 130-110-120 K SLIDE = 10 ROT = 695 NOV / 2-DEWATERING 1' N & 13' W OF TARGET CENTER DRILL FLARE, 0 CONN FLARE 0
6/27/2013	0:00 - 8:00	8.00	DRLPRV	02	В	P	5950	CLOSED LOOP SYSTEM  DRILL F/ 5950' TO 6991', 1041' @ 130.1' PH  WOB / 20-24  RPM TOP DRIVE 55-60, MM 135  (2 PUMPS) - SPM 200 GPM 586  MW 8.8 PPG VIS 31  TRQ ON/OFF = 11/9 K  PSI ON /OFF 2100/1700 , DIFF 300-600, PU/SO/RT = 150-130-140 K  SLIDE = 102  ROT = 939  NOV / 2-DEWATERING 1' N & 13' W OF TARGET CENTER  DRILL FLARE, 0 CONN FLARE 0
	8:00 - 17:30	9.50	DRLPRV	02	В	P	6991	CLOSED LOOP SYSTEM  DRILL F/ 6991' TO 8027', 1036' @ 109' PH  WOB / 20-24  RPM TOP DRIVE 55-60, MM 135  (2 PUMPS) - SPM 200 GPM 586  MW 8.8 PPG VIS 31  TRQ ON/OFF = 11/9 K  PSI ON /OFF 2100/1700 , DIFF 300-600, PU/SO/RT = 160-130-145 K  SLIDE = 16'  ROT = 1020'  NOV / 2-DEWATERING  12' N & 12' E OF TARGET CENTER  DRILL FLARE, 0 CONN FLARE 0

### API Well Number: 43047519690000 US ROCKIES REGION **Operation Summary Report** Well: NBU 1022-12P4BS GREEN Spud Date: 5/17/2013 Project: UTAH-UINTAH Site: NBU 1022-12P PAD Rig Name No: PROPETRO 12/12, PIONEER 54/54 Event: DRILLING Start Date: 5/1/2013 End Date: 6/29/2013 UWI: SE/SE/0/10/S/22/E/12/0/0/26/PM/S/1105/E/0/470/0/0 Active Datum: RKB @5,281.00usft (above Mean Sea Date Phase PAL Code Time Duration Sub MD From Operation Start-End Code (hr) (usft) 17:30 - 18:00 0.50 **DRLPRV** 07 Ρ 8027 SERVICE RIG Α 18:00 - 22:00 Р 4.00 В 8027 **DRLPRV** 02 CLOSED LOOP SYSTEM DRILL F/8027 TO 8455', 428' @ 107' PH WOB / 24-26 RPM TOP DRIVE 55-60, MM 135 (2 PUMPS) - SPM 200 GPM 586 MW 8.8 PPG VIS 31 DISPLACE WELL WITH 12#, 40 VIS @ 8300' (2 PUMPS) - SPM 170 GPM TRQ ON/OFF = 11/9 K PSI ON /OFF 2500/2100 , DIFF 300-500, PU/SO/RT = 175-140-155 K SLIDE = 0 ROT = 100% NOV / 2-DEWATERING OF TARGET CENTER DRILL FLARE, 0 CONN FLARE 0 22:00 - 23:00 1.00 С Р 8455 **DRLPRV** 05 CIRC & COND HOLE FOR SHORT TRIP 23:00 - 0:00 8455 1.00 DRLPRV 06 Ε Р SHORT TRIP 10 STDS & BACK, NO PROBLEMS 6/28/2013 0:00 - 1:00 1.00 **DRLPRV** 11 D 8455 CIRC & COND HOLE FOR TRIP, NO FLARE, 12 PPG, 40 VIS, 120 SPM, 356 GPM 1:00 - 4:30 3.50 **DRLPRV** 06 В Р 8455 TRIP OUT FOR WEATHERFROD CWS LOG 4:30 - 6:30 2.00 **EVALPR** 11 D P 8455 HELD SAFETY MEETING WITH RIG, WEATHERFORD & BJ SERVICES, R/U & P/U LOGGING ASSEMBLY, R/U BJ TO FILL PIPE & DEPLOY LOGGING TOOL @ 2 **BBLS A MIN** 6:30 - 11:00 4.50 **EVALPR** 06 В Р 8455 TRIP IN HOLE WITH WEATHERFORD CWS-A LOGGING TOOL, FILLING PIPE WITH BJ @ 4 BBLS A MIN, EVERY 3000' 11:00 - 13:30 **FVALPR** 8455 2.50 05 P FILL PIPE, DROP DART TO DEPLOY LOGGING TOOL, PUMP 70% @ 4 BBLS A MIN, SLOW PUMP RATE TO 2 BBLS A MIN & DEPLOY LOGGING TOOL, OPEN PORTS & CHANGE OVER TO RIG PUMPS & CIRC OUT GAS, PUMP PILL 13:30 - 17:30 4.00 **EVALPR** 8455 06 В P TRIP OUT OF HOLE @ 30' PER MIN LOGGING, LOGGER'S DEPTH 8448', TIGHT HOLE @ 6300' & 17:30 - 18:00 0.50 **EVALPR** 8455 07 Α SERVICE RIG Р 18:00 - 21:30 3.50 **EVALPR** В 8455 06 TRIP OUT OF HOLE @ 30' PER MIN LOGGING, L/D LOGGING ASSEMBLY 21:30 - 22:00 0.50 **CSGPRO** В 8455 PULL WEAR BUSHING 22:00 - 0:00 2.00 **CSGPRO** C Р 8455 12 HELD SAFETY MEETING WITH KIMZEY CASING & RIG CREWS, R/U & RAN / 191 TOTAL JOINTS OF CASING(77 JOINTS OF 4.5"/11.6#/I-80 + 1 MARKER) +(113 JOINTS OF 4.5"/11.6#/I-80/DQX) + (1-DQX CROSSOVER)/LANDED SHOE @ 8443'/FLOAT COLLOR @ 8397'/MEASA VERDE MARKER @

8/30/2013 1:39:04PM 6

6279'/DQX / X 8 RND LT&C X-OVER JOINT @ 5025"

## API Well Number: 43047519690000 US ROCKIES REGION **Operation Summary Report** Well: NBU 1022-12P4BS GREEN Spud Date: 5/17/2013 Project: UTAH-UINTAH Site: NBU 1022-12P PAD Rig Name No: PROPETRO 12/12, PIONEER 54/54 Event: DRILLING Start Date: 5/1/2013 End Date: 6/29/2013 UWI: SE/SE/0/10/S/22/E/12/0/0/26/PM/S/1105/E/0/470/0/0 Active Datum: RKB @5,281.00usft (above Mean Sea P/U Date Phase Code Time Duration Sub MD From Operation Start-End (hr) Code (usft) 0:00 - 1:30 6/29/2013 1.50 **CSGPRO** 12 Р 8455 C HELD SAFETY MEETING WITH KIMZEY CASING & RIG CREWS, R/U & RAN / 191 TOTAL JOINTS OF CASING(77 JOINTS OF 4.5"/11.6#/I-80 + 1 MARKER) +(113 JOINTS OF 4.5"/11.6#/I-80/DQX) + (1-DQX CROSSOVER)/LANDED SHOE @ 8443'/FLOAT COLLOR @ 8397'/MEASA VERDE MARKER @ 6279'/DQX / X 8 RND LT&C X-OVER JOINT @ 5025", 1:30 - 3:00 1.50 **CSGPRO** 22 L Z 8455 \*\*\*ELEVATOR'S WOULD NOT STAY CLOSED, WAIT ON NEW SET - 6:30 3:00 3.50 **CSGPRO** С Р 8455 12 FINISH RUNNING CASING, HAD TO WASH LAST 2' DOWN TO LAND 6:30 - 10:00 8455 3.50 **CSGPRO** 12 Ε Ρ HELD SAFETY MEETING WITH RIG & BJ CEMENTING CREWS, TEST LINES TO 4500, DROP BOTTOM PLUG, PUMP 25 BBLS WATER SPACER, LEAD 15% EXCESS, 160 BBLS (453) SACKS 12.5 PPG 1.98 YLD,PLII +6%GELL +5#skKS +.4%FL52 +.2%SMS +.4% R-3+5#/skSF + 1/4#skCF TAIL 15% EXCESS, 225.56 BBLS (960) SACKS 14.3 PPG 1.32 YLD,50/50 poz+2%gell+0.55% R-3 + 10%salt+5#/blnd S.F.75%SMS SHUT DOWN CLEAN LINES, DROP TOP PLUG & DISPLACE WITH 130.4 BBLS CLAYCARE WATER, BUMP PLUG @ 2500 PSI, 600 OVER FINAL LIFT OF 1850 PSI, FLOATS HELD, FULL RETURNS THRU OUT JOB WITH 5 BBLS SPACER BACK TO SURFACE NO CEMENT, 1.5 BBLS BACK TO TRUCK, EST TOP OF TAIL 3623', LEAD-150', FLUSH LINES & STACK, R/D 10:00 - 12:00 2.00 **CSGPRO** 14 В Ρ RIG DOWN LANDING JOINT, SET PACK OFF WITH CAMERON AND RELOAD HANGER.NIPPLE DOWN BOP, SAVE MUD AND PREPARE TO SKID TO THE NBU 1022-12P1BS,RELEASE RIG 12:00 6/29/13

## General

# Customer Information ÷

Company         US ROCKIES REGION           Representative         Address		
Representative         Address	Company	US ROCKIES REGION
Address	Representative	
	Address	

# Well/Wellbore Information 1.2

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				ΔPI
			US ROCKIES REGION	We:
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General				Num
Customer Information	uc			nber:
Company	US ROCKIES REGION			4
Representative				30
Address				) 4
Well/Wellbore Information	nation			7519
Well	NBU 1022-12P4BS GREEN	Wellbore No.	Ю	59(
Well Name	NBU 1022-12P4BS	Wellbore Name	NBU 1022-12P4BS	00
Report No.		Report Date	8/12/2013	00
Project	UTAH-UINTAH	Site	NBU 1022-12P PAD	)
Rig Name/No.		Event	COMPLETION	
Start Date	8/6/2013	End Date	8/19/2013	
Spud Date	5/17/2013	Active Datum	RKB @5,281.00usft (above Mean Sea Level)	
IMO	SE/SE/0/10/S/22/E/12/0/0/26/PM/S/1105/E/0/470/0/0	ž.÷		

## General <del>.</del>.

Contractor	Job Method	Supervisor	
Perforated Assembly	Conveyed Method		

Summary

1.5

## Initial Conditions <del>1</del>.4

Fluid Type		Fluid Density	Gross Interval	5,549.0 (usft)-8,313.0 (usft Start Date/Time	8/12/2013 12:00AM
Surface Press		Estimate Res Press	No. of Intervals	54 End Date/Time	8/12/2013 12:00AM
TVD Fluid Top		Fluid Head	Total Shots	205 Net Perforation Interval	nterval 65.00 (usft)
Hydrostatic Press		Press Difference	Avg Shot Density	3.15 (shot/ft) Final Surface Pressure	ssure
Balance Cond	NEUTRAL			Final Press Date	-

# Intervals

## Perforated Interval **2**.1

Reason Misr	UCTIO
Charge Re Weight (gram)	23.00 PRODUCTIC
Charge Desc /Charge Manufacturer	
Phasing (°)	00:06
Carr Size (in)	3.375
Carr Type /Stage No	3.360 EXP/
Diamete r (in)	0.360
Misfires/ Add. Shot	
Shot Density (shot/ft)	4.00
CCL@         CCL-T         MD Top         MD Base           (usft)         S         (usft)         (usft)           (usft)         Cusft)         (usft)	5,550.0
MD Top (usft)	5,549.0
CCL-T S (usft)	
(ust)	
Formation/ Reservoir	3/12/2013 WASATCH/ 12:00AM
Date	8/12/2013 12:00AM

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Pe	Perforated Interval (Continued)	(Continu	(pa												
Date	Formation/ Reservoir	CCL@	CCL-T S S (usft)	MD Top (usft)	MD Base (usft)	Shot Mis Density Add (shot/ft)	Misfires/ I Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size	Phasing (*)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
8/12/2013 V 12:00AM	WASATCH/			5,642.0	5,643.0	4.00		99	EXP/	3.375	90.00		23.00	23.00 PRODUCTIO N	
m	WASATCH/			5,710.0	5,711.0	4.00		0.360 E	EXP/	3.375	90.00		23.00	23.00 PRODUCTIO N	
m	WASATCH/			5,757.0	5,758.0	4.00		0.360 EXP/	XP/	3.375	90.00		23.00	23.00 PRODUCTIO N	
m	WASATCH/			5,764.0	5,765.0	4.00		0.360 EXP/	XP/	3.375	90.00		23.00	23.00 PRODUCTIO N	
8/12/2013 V 12:00AM	WASATCH/			5,844.0	5,845.0	4.00		0.360 EXP/	XP/	3.375	90.00		23.00	23.00 PRODUCTIO N	
8/12/2013 V 12:00AM	WASATCH/			5,957.0	5,959.0	4.00		0.360 EXP/	XP/	3.375	90.00		23.00	23.00 PRODUCTIO N	
8/12/2013 V 12:00AM	WASATCH/			5,977.0	5,979.0	4.00		0.360 EXP/	XP/	3.375	90.00		23.00	23.00 PRODUCTIO N	
8/12/2013 V 12:00AM	WASATCH/			6,177.0	6,180.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
m	MESAVERDE/			6,458.0	6,463.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			6,800.0	6,801.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			6,808.0	6,809.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			6,855.0	6,856.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			6,888.0	6,889.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
· ·	MESAVERDE/			6,933.0	6,934.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			6,968.0	6,969.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
m	MESAVERDE/			7,056.0	7,058.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			7,185.0	7,186.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			7,212.0	7,213.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			7,245.0	7,246.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N 12:00AM	MESAVERDE/			7,280.0	7,281.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/12/2013 N	MESAVERDE/			7,304.0	7,305.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO	

RECEIVED: Sep. 17, 2013

August 30, 2013 at 1:43 pm

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Perforated Interval (Continued)

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Misrun																					
Reason	PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N
Charge Weight (gram)	8	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Charge Desc /Charge Manufacturer																					
Phasing (°)	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
Carr Size (in)	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375
Carr Type /Stage No	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/
Diamete r (in)	0.360	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/							
Misfires/ Add. Shot																					
Shot Density (shot/ft)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
MD Base (usft)	7,328.0	7,344.0	7,362.0	7,396.0	7,404.0	7,413.0	7,423.0	7,453.0	7,471.0	7,526.0	7,541.0	7,583.0	7,643.0	7,662.0	7,682.0	7,695.0	7,705.0	7,741.0	7,802.0	7,850.0	7,863.0
MD Top (usft)	7,327.0	7,343.0	7,361.0	7,395.0	7,403.0	7,412.0	7,422.0	7,452.0	7,470.0	7,525.0	7,540.0	7,582.0	7,642.0	7,661.0	7,681.0	7,694.0	7,704.0	7,740.0	7,801.0	7,849.0	7,862.0
CCL-T S (usft)																					
(nsft)																					
Formation/ Reservoir	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/	MESAVERDE/
Date	8/12/2013 N 12:00AM	m	8/12/2013 N 12:00AM	m	8/12/2013 N 12:00AM	m	8/12/2013 N 12:00AM	8/12/2013 N 12:00AM	00												

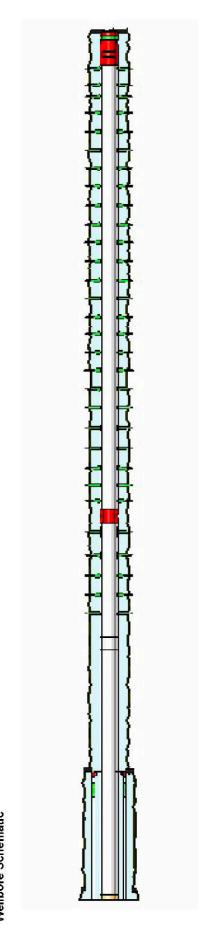
August 30, 2013 at 1:43 pm

Perforated Interval (Continued)

API Well	. Nu	mber	: 4	304	1752	196	900	00					
REGION		Misrun											
US ROCKIES REGION		Reason	23.00 PRODUCTIO N										
		Charge Weight (gram)	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
		Charge Desc /Charge Manufacturer											
		Phasing (°)	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
		Carr Size (in)	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375	3.375
		Carr Type /Stage No	EXP/										
		Diamete r (in)	0.360 EXP/	0360	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360	0.360 EXP/	0.360 EXP/	0.360	0.360
		Misfires/ Add. Shot											
		Shot Density (shot/ft)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
		MD Base (usft)	7,885.0	7,907.0	7,931.0	7,948.0	7,969.0	8,003.0	8,033.0	8,044.0	8,053.0	8,274.0	8,313.0
		MD Top (usft)	7,884.0	7,906.0	7,930.0	7,947.0	7,968.0	8,002.0	8,032.0	8,043.0	8,052.0	8,272.0	8,311.0
	ed)	CCL-T S (usft)											
	(Continu	CCL@											
	Perforated Interval (Continued)	Formation/ Reservoir	MESAVERDE/										
	2.1 P.	Date	8/12/2013 12:00AM										

## Plots

## Wellbore Schematic 3.1



August 30, 2013 at 1:43 pm

						KIES R	EGION ary Report	
Well: NBU 1022-	-12P4BS GREEN					V-10-10-10-10-10-10-10-10-10-10-10-10-10-	Spud Date: 5/17	7/2013
Project: UTAH-U	INTAH		Site: NBU	1022-12	P PAD			Rig Name No:
Event: COMPLE	TION		Start Date	e: 8/6/201	3	7		End Date: 8/19/2013
Active Datum: R Level)	KB @5,281.00usft (al	oove Mean Se	a	UWI: SE	E/SE/0/10	)/S/22/E/1	2/0/0/26/PM/S/110	D5/E/0/470/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/16/2013	-							
8/6/2013	10:00 - 11:00	1.00	SUBSPR	52	В	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 93 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO 504 PSI HELD FOR 5 MIN LOST -101 PSI,BLED PSI OFF, REINSTALLED POP OFF SWIFN NO PRESSURE ON SURFACE CASING FILLED SURFACE WITH 2 BBL H2O
8/9/2013	7:00 - 7:15	0.25	SUBSPR	48		Р		REVIEW RIGGING UP
	7:15 - 7:15	0.00	SUBSPR	37	В	Р		MIRU CASED HOLE SOLUTIONS, PERFORTE THE MESA VERDE STG #1 AS PERSAY IN PROCEDURE
8/13/2013	6:15 - 6:30	0.25		48		Р		HSM,

				Opera	tion S	Summa	ry Report	
Vell: NBU 102	2-12P4BS GREEN						Spud Date: 5/	17/2013
roject: UTAH-	UINTAH		Site: NBI	J 1022-12	P PAD			Rig Name No:
vent: COMPL	ETION		Start Dat	e: 8/6/201	13			End Date: 8/19/2013
ctive Datum: I evel)	RKB @5,281.00usft (a	bove Mean S	ea	UWI: SI	E/SE/0/10	D/S/22/E/1:	2/0/0/26/PM/S/1	105/E/0/470/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:00	10.00	FRAC	36	В	P	(AUI)	REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUMES, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELLS, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT. ALL PLUGS ARE HALIBURTON 8K CBPS PRESSURE TEST TO 8788 LOST 1364 IN 15 MINUTES, POP OFFS SET AT 6800  FRAC STG #1] WHP=1279#, BRK DN PERFS=4393#, @=4.0 BPM, INTIAL ISIP=2458#, FG=.74, FINAL ISIP=2473#, FG=.74,  SET PLUG & PERFORATE STG #2  FRAC STG #2] WHP=2150#, BRK DN PERFS=2928#, @=3.5 BPM, INTIAL ISIP=2250#, FG=.72, FINAL ISIP=2580#, FG=.76,  SET PLUG & PERFORATE STG #3  FRAC STG #3] WHP=759#, BRK DN PERFS=2944#, @=3.8 BPM, INTIAL ISIP=1738#, FG=.66, FINAL ISIP=2596#, FG=.78,  SET PLUG & PERFORATE STG #4  FRAC STG #4] WHP=1975#, BRK DN PERFS=6063#, @=4.8 BPM, INTIAL ISIP=2141#, FG=.73, FINAL ISIP=1815#, FG=.68,  SET PLUG PERFORATE STG #5  FRAC STG #5] WHP=1245#, BRK DN PERFS=2562#, @=3.8 BPM, INTIAL ISIP=1685#, FG=.67, FINAL ISIP=1938#, FG=.71,
								SET PLUG PERFORATE STG#5  FRAC STG #5] WHP=1245#, BRK DN PERFS=2562#, @=3.8 BPM, INTIAL ISIP=1685#, FG=.67, FINAL

						KIES RI		
				Opera	tion S	Summa	ry Report	
Vell: NBU 1022	2-12P4BS GREEN						Spud Date: 5/	17/2013
Project: UTAH-l	JINTAH		Site: NBU	1022-12	P PAD			Rig Name No:
vent: COMPLI	ETION		Start Date	e: 8/6/201	3			End Date: 8/19/2013
Active Datum: F .evel)	RKB @5,281.00usft (a	bove Mean S	ea	UWI: SE	E/SE/0/10	)/S/22/E/1	2/0/0/26/PM/S/1	105/E/0/470/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 14:00	7.00		36	В	Р		FRAC STG #6] WHP=1206#, BRK DN PERFS=2658#, @=3.5 BPM, INTIAL ISIP=1643#, FG=.68, FINAL ISIP=2328#, FG=.77,
								FRAC STG #7] WHP=353#, BRK DN PERFS=2686#, @=3.4 BPM, INTIAL ISIP=1228#, FG=.63, FINAL ISIP=2304#, FG=.80,  SET PLUUG AND PERFORATE STG #8  FRAC STG #8] WHP=399#, BRK DN PERFS=6486#, @=2.7 BPM, INTIAL ISIP=1781#, FG=.74, FINAL ISIP=1865#, FG=.75,  SET PLUG AND PERFORATE STG #9  FRAC STG #9] WHP=179#, BRK DN PERFS=2031#, @=3.4 BPM, INTIAL ISIP=1492#, FG=.70, FINAL ISIP=#, FG=.,  SET TOP KILL  TOTAL BBLS=9499  TOTAL SAND=223741
8/15/2013	12:30 - 17:00	4.50	DRLOUT	30	Α	Р		MOVE TO LOCATION, SPOT CMT BLOCK, RIG UP RIG, ND WH NU BOPS, RU FLOOR & TBG EQUIP. PREP TO PU TBG IN AM, SWI SDFN.
8/16/2013	7:00 - 7:30	0.50	DRLOUT	48		Р		HSM, PICKING UP TBG OFF FLOAT.
	7:30 - 15:00	7.50	DRLOUT	31	Ĭ	P		CHANGED RAMS IN BOPS, TALLY & PU 37/8 BIT, POBS, 1.875 X/N, & 150 JTS 23/8 J-55, 6' 23/8 L-80 PUP JT, 34 JTS 23/8 L-80, TAG UP @ 5489 '.WHILE RIGGING UP SWIVEL HOSE FITTING BROKE. HAD TO SHUT DWN. SWI SDFWE
8/19/2013	7:00 - 7:30	0.50	DRLOUT	48		Р		HSM,DRILLING OUT CBPS.

						KIES RI		
				Opera	tion S	Summa	ry Report	
√ell: NBU 102	2-12P4BS GREEN						Spud Date: 5/	17/2013
roject: UTAH-	UINTAH		Site: NBL	J 1022-12	P PAD			Rig Name No:
vent: COMPL	ETION		Start Dat	e: 8/6/201	13			End Date: 8/19/2013
ctive Datum: evel)	RKB @5,281.00usft (al	oove Mean S	Sea	UWI: SI	E/SE/0/10	)/S/22/E/1	2/0/0/26/PM/S/1	105/E/0/470/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 14:00	6.50	DRLOUT	44	С	Р		RU DRLG EQUIP, BROKE CIRC CONV, TEST BOPS TO 3,000 PSI, RIH
								C/O 10' SAND TAG 1ST PLUG @ 5499' DRL PLG IN 8 MIN, 200 PSI INCREASE RIH.
								C/O 45' SAND TAG 2ND PLUG @ 5795' DRL PLG IN 5 MIN, 0 PSI INCREASE RIH.
								C/O 30' SAND TAG 3RD PLUG @ 6009' DRL PLG IN 5 MIN, 0 PSI INCREASE RIH.
								C/O 30' SAND TAG 4TH PLUG @ 6490' DRL PLG IN 10 MIN, 300 PSI INCREASE RIH.
								C/O 65' SAND TAG 5TH PLUG @ 7088' DRL PLG IN 7 MIN, 400 PSI INCREASE RIH.
								C/O 30' SAND TAG 6TH PLUG @ 7385' DRL PLG IN 7 MIN, 200 PSI INCREASE RIH.
								C/O 30' SAND TAG 7TH PLUG @ 7571' DRL PLG IN 5 MIN, 400 PSI INCREASE RIH.
								C/O 75' SAND TAG 8TH PLUG @ 7832' DRL PLG IN 5 MIN, 400 PSI INCREASE RIH.
								C/O 20' SAND TAG 9TH PLUG @ 8022' DRL PLG IN 4 MIN, 300 PSI INCREASE RIH.
								C/O TO 8397', CIRC CLN, RD SWIVEL, L/D 19 JTS, LAND TBG, ND BOPS NU WH, PUMPED OFF BIT, TURN WELL TO FB CREW.
								KB = 19' 41/16 HANGER = .83'  SURFACE VALVE OPEN & LOCKED ) 106 JTS 23/8 L-80 = 3368.87' 1400 SICP
								TWTR 9819 BBLS TWR 100 BBLS TWLTR 8719 BBL
								324 JT HAULED OUT, 150 J-55, 174 L-80. 256 LANDED 68 TO RETURN

API Well Number: 430475 Site: NBU 1022-12P PAD

Scientific Drilling

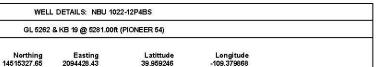
+E/-W 0.00

+N/-S 0.00

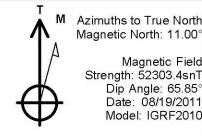
Well: NBU 1022-12P4BS

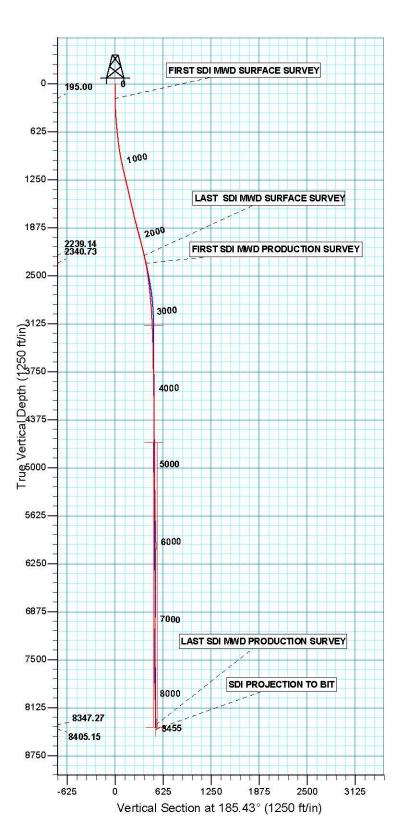
Wellbore: OH

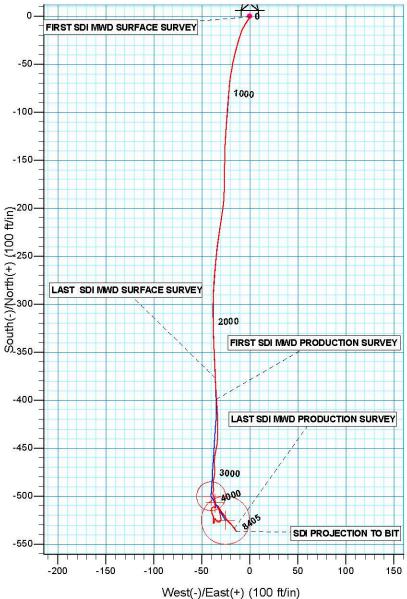
Design: OH











PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866

Zone: Zone 12N (114 W to 108 W) Location: SECTION 12 T10S R22E System Datum: Mean Sea Level

Design: OH (NBU 1022-12P4BS/OH)

RECEIVoreated By: Same Rendall 1 Tate: 122401 1 1 2 2 2013



## **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 1022-12P PAD NBU 1022-12P4BS

OH

Design: OH

## **Standard Survey Report**

23 July, 2013



API Well Number: 43047519690000



## SDI Survey Report



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 1022-12P PAD

 Well:
 NBU 1022-12P4BS

Wellbore: OH
Design: OH

Geo Datum: Map Zone:

Site

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 1022-12P4BS

GL 5262 & KB 19 @ 5281.00ft (PIONEER 54) GL 5262 & KB 19 @ 5281.00ft (PIONEER 54)

True

Minimum Curvature
EDM 5000.1 Single User Db

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Zone 12N (114 W to 108 W) System Datum: Mean Sea Level

NBU 1022-12P PAD, SECTION 12 T10S R22E

14.515.334.19 usft Northing: 39.959263 Site Position: Latitude: -109.379800 From: Lat/Long Easting: 2,094,447.37 usft Longitude: **Position Uncertainty:** 0.00 ft Slot Radius: 13.200 in Grid Convergence: 1.04°

Well NBU 1022-12P4BS, 1105 FSL 470 FEL 0.00 ft **Well Position** +N/-S Northing: 14.515.327.65 usft Latitude: 39.959246 +E/-W 0.00 ft Easting: 2,094,428.42 usft Longitude: -109.379868 0.00 ft Wellhead Elevation: 5,262.00 ft **Position Uncertainty** ft Ground Level:

ОН Wellbore Declination Field Strength **Magnetics Model Name** Sample Date Dip Angle (°) (°) (nT) IGRF2010 08/19/11 11.00 65.85 52,303

ОН Design **Audit Notes:** ACTUAL Version: 1.0 0.00 Phase: Tie On Depth: +N/-S **Vertical Section:** Depth From (TVD) +E/-W Direction (ft) (fft) (ft) (°) 0.00 0.00 0.00 185.43

Date 07/23/13 Survey Program From To **Tool Name** (ft) Survey (Wellbore) Description 15.00 2,280.00 Survey #1 SDI MWD SURFACE (OH) SDI MWD SDI MWD - Standard ver 1.0.1 2,384.00 8,455.00 Survey #2 SDI MWD PRODUCTION (OH) SDI MWD SDI MWD - Standard ver 1.0.1

Survey Measured Vertical Vertical Dogleg Build Turn Depth Depth Section Inclination Azimuth +N/-S +E/-W Rate Rate Rate (°/100ft) (°/100ft) (°/100ft) (ft) (°) (°) (ft) (ft) (ft) (ft) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 15.00 0.00 0.00 15.00 0.00 0.00 0.00 0.00 0.00 0.00 195.00 0.53 150.61 195.00 -0.73 0.41 0.68 0.29 0.29 0.00 FIRST SDI MWD SURFACE SURVEY 281.98 2.25 2.00 282.00 1.89 -2.23-0.241.56 75.43 216.23 369.00 216.20 368.90 3.07 -5.27 -2.47 5.48 1.36 1.36 -0.03 463.00 4.84 209.85 462.67 -10.74-5.9311.25 1.94 1.88 -6.76553.00 5.79 199.41 552.28 -18.32-9.3319.12 1.50 1.06 -11.60195.02 643.00 6.38 641.78 -27.43-12.1328.45 0.83 0.66 -4.88733.00 6.86 194.99 731.18 -37.45-14.8238.68 0.53 0.53 -0.03

RECEIVED: Sep. 17, 2013



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 1022-12P PAD

 Well:
 NBU 1022-12P4BS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 1022-12P4BS

GL 5262 & KB 19 @ 5281.00ft (PIONEER 54) GL 5262 & KB 19 @ 5281.00ft (PIONEER 54)

True

Minimum Curvature
EDM 5000.1 Single User Db

Survey Measured Vertical Vertical Dogleg Build Turn Depth Inclination **Azimuth** Depth +N/-S +E/-W Section Rate Rate Rate (°/100ft) (ft) (ft) (°/100ft) (°/100ft) (ft) (°) (°) (ft) (ft) 823.00 7 74 191 48 -48 58 -17 41 50 01 820 45 1.10 0.98 -3.90913.00 9.47 188 28 909.43 -61.85 -19.69 63.43 1.99 1.92 -3.561,003.00 11.17 185.24 997.97 -77.86 -21.5579.55 1.98 1.89 -3.381,093.00 12.46 184.20 1,086.06 -96.22 -23.05 97.97 1.45 1.43 -1.161,183.00 13.54 184.53 1,173.75 -116.41 -24.60118.21 1.20 1.20 0.37 1,273.00 13.98 181.72 1,261.17 -137.78-25.76139.60 0.89 0.49 -3.121,363.00 14.23 180.33 1,348.46 -159.71 -26.15 161 46 0.47 0.28 -1.54 1,453.00 12.76 181.25 1,435.97 -180.71 -26.43 182 40 1.65 -1.631.02 1,543.00 12.31 187.79 1,523.83 -200.15 -27.94 201.89 1.65 -0.50 7.27 1,633.00 13.21 188.88 1,611.61 -219.82 -30.83221.75 1.04 1.00 1.21 1,723.00 13.57 187.01 1,699.16 -240.46 -33.71242.57 0.63 0.40 -2.0814 68 185 24 1,786.44 -262 29 -36 04 264 52 1 32 1 23 -1 97 1.813.00 287.35 0.81 14 73 182 38 1 873 49 -285 08 -37 56 0.06 -3 18 1.903.00 -308.06 -38.10 310.28 0.60 0.16 -2.281,993.00 14 87 180 33 1 960 51 14 07 177 41 2,047.65 -330 54 -37.67 332 62 1.20 -0.89 -3 24 2.083.00 2,173.00 13.75 177.61 2,135.01 -352.15 -36.73354.05 0.36 -0.360.22 2,263.00 13.01 178.03 2.222.57 -372.96-35.93374.69 0.83 -0.820.47 2.280.00 12.93 177.85 2,239.14 -376.78 -35.80 378.47 0.53 -0.47-1.06LAST SDI MWD SURFACE SURVEY 11.78 175.20 2,340.73 -398.98 -34.47 400.46 1.23 -1.11 -2.55 2.384.00 FIRST SDI MWD PRODUCTION SURVEY 2,479.00 2,434.26 -415.48 -33.41 416.78 3.73 -3.69 2.86 8.27 177.92 2,573.00 182.49 2,527.38 -428.34 -33.43 429.58 1.08 -0.85 4.86 7.47 2,668.00 6.86 179.24 2,621.63 -440.18 -33.63 441.39 0.77 -0.64-3.425.89 194.32 -450.47 -34.74 451.74 2.05 -1.0316.04 2.762.00 2.715.06 2.857.00 5.10 188.65 2,809.62 -459.37 -36.58 460.77 1.01 -0.83 -5.97 4.40 171.42 2,904.30 -467.15 -36.68 468.52 1.66 -0.74-18.14 2.952.00 3,047.00 3.61 184.25 2,999.07 -473.73 -36.35 475.05 1.25 13.51 -0.833,141.00 3 43 189 26 3,092.89 -47946-37.03480 81 0.38 -0.195 33 3.236.00 2.11 188.29 3,187.78 -484.00-37.74485 40 1.39 -1.39-1.02-487.77 -38.03489.18 0.47 0.37 -7.493,331.00 2.46 181.17 3,282.70 -37.92492.12 -10.633,426.00 1.14 171.07 3,377.65 -490.741.42 -1.39-37.62 494.24 0.37 3,521.00 1.49 172.74 3,472.63 -492.900.37 1.76 3,616.00 0.79 205.43 3,567.61 -494.71 -37.75 496.07 0.98 -0.7434.41 3,712.00 1.14 187.42 3,663.60 -496.26 -38.15 497.64 0.48 0.36 -18.76 3,807.00 1.49 175.81 3,758.57 -498.43 -38.19499.80 0.46 0.37 -12.223,901.00 1.32 156.13 3,852.55 -500.64 -37.66501.95 0.54 -0.18-20.943,996.00 156.13 3,947.52 -502.77 503.98 0.00 1.49 -36.720.18 0.18 4,091.00 166.59 4,042.49 -504.81 -36.00 505.96 0.45 -0.3711.01 1.14 4,186.00 0.26 268.10 4,137.49 -505.74 -35.99 506.88 1.28 -0.93 106.85 4,281.00 0.53 198.40 4,232.48 -506.16 -36.35 507.33 0.53 0.28 -73.37 4,376.00 0.35 149.89 4,327.48 -506.83 -36.34 508.00 0.42 -0.19 -51.06 4,470.00 0.70 174.41 4,421.48 -507.65 -36.14508.80 0.43 0.37 26.09

RECEIVED: Sep. 17, 2013



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 1022-12P PAD

 Well:
 NBU 1022-12P4BS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 1022-12P4BS

GL 5262 & KB 19 @ 5281.00ft (PIONEER 54) GL 5262 & KB 19 @ 5281.00ft (PIONEER 54)

True

Minimum Curvature

EDM 5000.1 Single User Db

						10			
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (%100ft)	Build Rate (°/100ft)	Turn Rate (%100ft)
4,564.00	0.70	180.65	4,515.47	-508.80	-36.09	509.93	0.08	0.00	6.64
4,659.00	0.88	157.53	4,610.46	-510.05	-35.82	511.15	0.38	0.19	-24.34
4,754.00	0.97	167.11	4,705.45	-511.51	-35.36	512.56	0.19	0.09	10.08
4,848.00	0.79	293.15	4,799.44	-512.03	-35.78	513.12	1.67	-0.19	134.09
4,943.00	0.62	312.66	4,894.44	-511.43	-36.76	512.61	0.31	-0.18	20.54
5,038.00	0.70	250.17	4,989.43	-511.27	-37.68	512.55	0.72	0.08	-65.78
5,133.00	0.62	237.25	5,084.42	-511.75	-38.66	513.11	0.18	-0.08	-13.60
5,228.00	0.79	221.34	5,179.42	-512.52	-39.53	513.96	0.27	0.18	-16.75
5,323.00	0.97	174.58	5,274.41	-513.81	-39.88	515.28	0.76	0.19	-49.22
5,417.00	1.49	173.09	5,368.39	-515.82	-39.66	517.26	0.55	0.55	-1.59
5,512.00	1.49	161.40	5,463.35	-518.21	-39.12	519.59	0.32	0.00	-12.31
5,607.00	0.62	154.37	5,558.34	-519.85	-38.50	521.16	0.92	-0.92	-7.40
5,701.00	1.23	163.51	5,652.32	-521.27	-38.00	522.53	0.67	0.65	9.72
5,796.00	1.06	175.46	5,747.31	-523.13	-37.64	524.34	0.31	-0.18	12.58
5,891.00	1.23	186.01	5,842.29	-525.02	-37.67	526.23	0.28	0.18	11.11
5,986.00	1.58	181.79	5,937.26	-527.34	-37.82	528.55	0.38	0.37	-4.44
6,081.00	0.26	66.57	6,032.25	-528.56	-37.66	529.76	1.80	-1.39	-121.28
6,176.00	1.50	30.00	6,127.23	-527.40	-36.84	528.52	1.37	1.31	-38.49
6,271.00	1.14	354.23	6,222.21	-525.38	-36.32	526.46	0.93	-0.38	-37.65
6,366.00	0.53	4.34	6,317.20	-524.01	-36.38	525.10	0.66	-0.64	10.64
6,460.00	0.26	83.44	6,411.20	-523.55	-36.14	524.62	0.58	-0.29	84.15
6,555.00	1.06	150.59	6,506.19	-524.29	-35.49	525.29	1.04	0.84	70.68
6,650.00	1.67	141.54	6,601.16	-526.14	-34.20	527.01	0.68	0.64	-9.53
6,744.00	1.06	99.17	6,695.14	-527.35	-32.49	528.06	1.21	-0.65	-45.07
6,839.00	1.49	39.76	6,790.12	-526.54	-30.83	527.09	1.39	0.45	-62.54
6,934.00	1.93	2.58	6,885.08	-523.99	-29.97	524.48	1.23	0.46	-39.14
7,029.00	2.55	345.97	6,980.01	-520.34	-30.41	520.89	0.94	0.65	-17.48
7,122.00	2.11	344.92	7,072.93	-516.68	-31.35	517.33	0.48	-0.47	-1.13
7,216.00	1.49	346.15	7,166.88	-513.83	-32.10	514.56	0.66	-0.66	1.31
7,311.00	0.97	353.97	7,261.86	-511.83	-32.48	512.60	0.57	-0.55	8.23
7,406.00	0.62	319.60	7,356.85	-510.64	-32.89	511.46	0.61	-0.37	-36.18
7,500.00	0.09	69.82	7,450.85	-510.22	-33.16	511.07	0.70	-0.56	117.26
7,594.00	0.62	159.55	7,544.85	-510.67	-32.91	511.50	0.67	0.56	95.46
7,687.00	0.97	139.08	7,637.84	-511.74	-32.22	512.49	0.48	0.38	-22.01
7,781.00	1.32	152.08	7,731.82	-513.30	-31.19	513.95	0.46	0.37	13.83
7,875.00	2.20	147.25	7,825.78	-515.77	-29.71	516.27	0.95	0.94	-5.14
7,969.00	2.20	143.65	7,919.71	-518.74	-27.66	519.03	0.15	0.00	-3.83
8,062.00	2.29	147.78	8,012.64	-521.75	-25.61	521.84	0.20	0.10	4.44
8,156.00	2.46	144.96	8,106.55	-524.99	-23.45	524.86	0.22	0.18	-3.00
8,250.00	2.37	131.52	8,200.47	-527.93	-20.84	527.54	0.61	-0.10	-14.30
8,344.00	3.08	142.24	8,294.37	-531.22	-17.84	530.52	0.93	0.76	11.40
8,397.00	3.69	143.82	8,347.27	-533.72	-15.96	532.84	1.16	1.15	2.98
	ND PRODUCTIO								

RECEIVED: Sep. 17, 2013

API Well Number: 43047519690000



## SDI Survey Report



US ROCKIES REGION PLANNING Company: Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 1022-12P PAD Well: NBU 1022-12P4BS

Wellbore: OH OH Design:

Local Co-ordinate Reference:

(ft)

TVD Reference: MD Reference:

GL 5262 & KB 19 @ 5281.00ft (PIONEER 54) North Reference:

Minimum Curvature Survey Calculation Method: EDM 5000.1 Single User Db Database:

Survey

Measured

Depth Inclination **Azimuth** (ft) (°) (°)

Vertical Depth (ft)

+N/-S +E/-W (ft)

Vertical Section (ft)

Dogleg Rate (°/100ft)

Well NBU 1022-12P4BS

GL 5262 & KB 19 @ 5281.00ft (PIONEER 54)

Build Turn Rate Rate (°/100ft) (°/100ft)

SDI PROJECTION TO BIT

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
DTGT_NBU 1022-12P4 - actual wellpath mi - Circle (radius 15.0	isses target cen	9202000	3,148.90 ft at 3197.96	-500.20 oft MD (3149.7	-40.23 7 TVD, -482.4	14,514,826.80 44 N, -37.50 E)	2,094,397.29	39.957873	-109.380012
TOC @ 4672.00 (NBU - actual wellpath mi - Point			4,672.00 at 4720.49f	-507.29 t MD (4671.94	-35.97 TVD, -510.97	14,514,819.79 7 N, -35.50 E)	2,094,401.67	39.957853	-109.379997
PBHL_NBU 1022-12P4 - actual wellpath mi - Circle (radius 25.0	isses target cen	"THE	8,382.00 ft at 8430.86	-525.20 ift MD (8381.0	-25.23 6 TVD, -535.4	14,514,802.08 48 N, -14.67 E)	2,094,412.74	39.957804	-109.379958

esign Annotations					
Measur	ed Vertical	Vertical	Local Coordinates		
Depth (ft)	ľ	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
19	5.00	195.00	-0.73	0.41	FIRST SDI MWD SURFACE SURVEY
2,28	0.00	2,239.14	-376.78	-35.80	LAST SDI MWD SURFACE SURVEY
2,38	4.00	2,340.73	-398.98	-34.47	FIRST SDI MWD PRODUCTION SURVEY
8,39	7.00	8,347.27	-533.72	-15.96	LAST SDI MWD PRODUCTION SURVEY
8,45	5.00	8,405.15	-536.73	-13.75	SDI PROJECTION TO BIT

Checked By: Approved By:	Date:
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Sundry Number: 45313 API Well Number: 43047519690000

	FORM 9			
ι	5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01197-			
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:			
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-12P4BS			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	<b>9. API NUMBER:</b> 43047519690000			
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 73779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1105 FSL 0470 FEL	COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: SESE Section: 12	STATE: UTAH			
11. CHEC	K APPROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA	
TYPE OF SUBMISSION		TYPE OF ACTION		
	ACIDIZE	ALTER CASING	CASING REPAIR	
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME	
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION	
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK	
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION	
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON	
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL	
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION	
11/26/2013	WILDCAT WELL DETERMINATION	OTHER	OTHER:	
FINISHED DRILLING CASING. RELEASED AND CEMENT WAS	COMPLETED OPERATIONS. Clearly show a G TO 8455 ON 6/27/2013. CEI PIONEER 54 RIG ON 6/29/20 INCLUDED WITH THE WELL 0	MENTED PRODUCTION 13. DETAILS OF CASING COMPLETION REPORT.		
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUMB</b> 720 929-6236	ER TITLE Staff Regulatory Specialist		
SIGNATURE N/A		<b>DATE</b> 11/26/2013		